

1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

DSL - AMRB No. 93-M06

FINAL REPORT

Cascade and Judith Basin Counties, Montana



October 6th, 1994

SPECTRUM ENGINEERING

Billings, Montana

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FINAL REPORT

**1993 NORTH-CENTRAL MONTANA
MAINTENANCE PROJECT**

DSL - AMRB No. 93-M06



FINAL REPORT

**1993 NORTH-CENTRAL MONTANA
MAINTENANCE PROJECT**

DSL - AMRB No. 93-M06

**12 Sites Located in
Cascade and Judith Basin Counties, Montana**

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

1. INTRODUCTION

1.1 Project Description

The 12 project sites are located in central Montana between Lewistown and Great Falls. Nine of the sites are found in Cascade County with seven of these in the Sand Coulee and Stockett areas and two of the sites by the town of Belt. Three of the sites are in Judith Basin County between Windham and Geyser. Access to each of the sites can be determined by studying the 1993 North-Central Montana Maintenance Project Cover Sheet and the individual Site and/or Vicinity Location Maps on each Site Plan. Access is also described within the Location and Access section of this report (Section 1.1.1).

The need for this project was to protect human health and safety caused by open adits, debris, subsidence holes, open vents, and a contaminated domestic water well and associated home plumbing. The project was also to protect the environment due to coal slack areas, failed riprap channels from previous reclamation and repair of an iron stained channel. The work consisted of providing all labor, materials, earthwork, and incidentals necessary to complete all of the tasks outlined within section 1.2 of this report, Project Objectives/Site Problems, and as shown on the Site Plans.

The contractor was also required to obtain an MPDES Stormwater Discharge permit to cover all the sites.

1.1.1 Location and Access

Cottonwood Creek.

The Cottonwood Creek Site is located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 7, T18N, R5E in Cascade County, Montana. The latitude is 47°19.4' and longitude 111°08.7'. This site is found on the 7½ minute quadrangle Stockett, Montana at an approximate surface elevation of 3970 feet.

General access is by proceeding east from Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 going towards Sand Coulee and Stockett. At the town of Stockett, turn east (and travel for ¼ mile) and then south and proceed down the Cottonwood Creek road for about 2½ miles until reaching road entrance 263. Turn left (east) off the main road and proceed another ¼ mile until the site is visible on the hillside (to the right) above the apple tree (just prior to reaching a garage and house). Access is shown on the Cover Sheet and the Cottonwood Creek Site Plan.

1. INTRODUCTION

1.1. Purpose and Scope

The purpose of this report is to provide a comprehensive overview of the current zoning regulations in the City of [City Name] and to identify areas for potential reform. The report will focus on non-industrial zoning, which includes residential, commercial, and community uses. The scope of the report is limited to the City of [City Name] and does not include industrial or agricultural zoning.

The report is organized into five main sections. Section 1, Introduction, provides an overview of the project and its purpose. Section 2, Current Zoning Regulations, describes the existing zoning framework. Section 3, Analysis of Current Regulations, evaluates the strengths and weaknesses of the current system. Section 4, Proposed Reforms, outlines potential changes to the zoning code. Section 5, Conclusion, summarizes the findings and recommendations of the project.

The report is intended to serve as a resource for city officials, community members, and other stakeholders involved in the zoning reform process. It is hoped that the findings and recommendations will inform the development of a more effective and equitable zoning system for the City of [City Name].

1.2. Location and Context

1.2.1. Location of Study

The study area is located in the [City Name] area, which is a rapidly growing region. The area is characterized by a mix of residential, commercial, and community uses. The study area is bounded by [City Name] to the north, [City Name] to the south, [City Name] to the east, and [City Name] to the west.

The study area is a diverse and vibrant community. It is home to a large and growing population of residents, many of whom are young professionals and families. The area is also home to a variety of businesses and organizations, including retail stores, restaurants, and community centers. The study area is a key part of the City of [City Name] and is an important part of the regional economy.

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Dolena Well.

The Dolena Well Site is located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 7, T18N, R5E in Cascade County, Montana. The latitude is 47°19.9' and longitude 111°09.2'. This site is found on the 7½ minute quadrangle Stockett, Montana at an approximate surface elevation of 3800 feet.

General access is by proceeding east out of Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 going towards Sand Coulee and Stockett. At the town of Stockett, turn east (and travel for ¼ mile) and then south and proceed down the Cottonwood Creek road for almost 2 miles until reaching Anna Dolena's house down off the road on the right (west). Wooden post number 190 is on the road entrance to her house. Access is shown on the Cover Sheet and the Dolena Well Site Plan.

Stockett-Westridge.

The Stockett-Westridge Site is located in the S½NW¼ of Section 36, T19N, R4E in Cascade County, Montana. The latitude is 47°21.5' and longitude 111°10.2'. This site is found on the 7½ minute quadrangle Stockett, Montana at an approximate surface elevation of 3650 feet.

General access is by proceeding east out of Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 going towards Sand Coulee and Stockett. Proceed past Centerville 1¼ miles (one mile before reaching Stockett), turn west (right for ¼ mile) and then south-southwest down Number Five Coulee (good gravel road). Proceed down this road about 1 mile until the reclaimed hillside is visible on the left (southeast) at mile marker 6. Proceed another ½ mile southwest until reaching the gate and access trail which leads back to the northeast to the project area. The access road follows a two track road, from its point of departure from the county road in Number Five Coulee, for approximately 1,500 feet. Access is shown on the Cover Sheet and the Stockett-Westridge Site Plan.

Vents.

The Vents Site is located in the E½SE¼SE¼ of Section 24, T19N, R4E in Cascade County, Montana. The latitude is 47°22.8' and longitude 111°09.3'. This site is found on the 7½ minute quadrangle Southeast Great Falls, Montana at an approximate surface elevation of 3700 feet.

General access is by proceeding east out of Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 going towards Sand Coulee and Stockett. One mile south of Centerville, the site is located on the hillside to the west. There is a gate through the fence off the paved road but access to the site is by foot. Access is shown on the Cover Sheet and the Vents Site

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The Committee will also be asked to consider the possibility of a "data maintenance project" which would be a continuation of the work of the Committee on the Rights of the Child.

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Plan.

Centerville "C".

The Centerville "C" Site is located in the S $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 18 and the N $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 19, T19N, R5E in Cascade County, Montana. The latitude is 47°23.4' and longitude 111°08.3'. This site is found on the 7 $\frac{1}{2}$ minute quadrangle Southeast Great Falls, Montana at an approximate surface elevation of 3500 feet.

General access is by proceeding east out of Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 going towards Sand Coulee and Stockett. Proceed down the Stockett road until reaching Centerville. The site is at the base of the hillside to the east of Centerville behind and to the north of the Centerville Park. Access is shown on the Cover Sheet and the Centerville "C" Site Plan.

Work Area 23.

The Work Area 23 Site is located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 13, T19N, R4E in Cascade County, Montana. The latitude is 47°24.1' and longitude 111°10.1'. This site is found on the 7 $\frac{1}{2}$ minute quadrangle Southeast Great Falls, Montana at an approximate surface elevation of 3500 feet.

General access is by proceeding east out of Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 traveling towards Sand Coulee and Stockett. The site is on the hillside to the west just as the town of Sand Coulee is entered from the north. Access is shown on the Cover Sheet and the Work Area 23 Site Plan.

Mining Coulee.

The Mining Coulee Site is located in the E $\frac{1}{2}$ E $\frac{1}{2}$ of Section 23, T19N, R4E in Cascade County, Montana. The latitude is 47°24.1' and longitude 111°10.1'. This site is found on the 7 $\frac{1}{2}$ minute quadrangle Southeast Great Falls, Montana at an approximate surface elevation of 3575 feet.

General access is by proceeding east out of Great Falls on Highway 87/89 towards Lewistown. Less than 5 miles out of Great Falls, turn south on Highway 227 going towards Sand Coulee and Stockett. The site area is found in Mining Coulee about $\frac{1}{2}$ mile south of Sand Coulee. Access is through a farm gate to the east on a big horseshoe bend. Access is shown on the Cover Sheet and the Mining Coulee Site Plan.

ANNEX 1

The first part of the study is devoted to a description of the situation in the country at the time of the survey. It includes a brief history of the country, a description of the geographical situation, and a description of the social and economic situation.

The second part of the study is devoted to a description of the situation in the country at the time of the survey. It includes a brief history of the country, a description of the geographical situation, and a description of the social and economic situation.

ANNEX 2

The third part of the study is devoted to a description of the situation in the country at the time of the survey. It includes a brief history of the country, a description of the geographical situation, and a description of the social and economic situation.

The fourth part of the study is devoted to a description of the situation in the country at the time of the survey. It includes a brief history of the country, a description of the geographical situation, and a description of the social and economic situation.

ANNEX 3

The fifth part of the study is devoted to a description of the situation in the country at the time of the survey. It includes a brief history of the country, a description of the geographical situation, and a description of the social and economic situation.

The sixth part of the study is devoted to a description of the situation in the country at the time of the survey. It includes a brief history of the country, a description of the geographical situation, and a description of the social and economic situation.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Belt Culvert.

The Belt Culvert Site is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ and the E $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 26, T19N, R6E in Cascade County, Montana. The latitude is 47°22.9' and longitude 110°55.7'. This site is found on the 7½ minute quadrangle Belt, Montana at an approximate surface elevation of 3550 feet.

It is situated on the southern end of the townsite of Belt between the railroad tracks and Belt Creek. It is almost due east of the water tanks (just downhill from the AMRB wetlands and railroad track) and west of the rodeo grounds. Access is shown on the Cover Sheet and the Belt Culvert Site Plan.

Anaconda.

The Anaconda Site is located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 26, T19N, R6E in Cascade County, Montana. The latitude is 47°22.5' and longitude 110°55.8'. This site is found on the 7½ minute quadrangle Armington, Montana at an approximate surface elevation of 3600 feet.

It is situated at the base (southwest side) of the highway fill for the U.S. Highway 87/89 Bypass crossing French Coulee. Proceed 5600 feet (1.06 miles) southeast on Highway 87/89 from the main entrance to Belt off of the highway. Pull off the road immediately after crossing the fill embankment across French Coulee. There is one single lane road (about 1700 feet long in a horseshoe shape) winding into the bottom of French Coulee. Part way down, there is one farm gate which will need to be opened (currently unlocked). Access is shown on the Cover Sheet and the Anaconda Site Plan.

Coal Mine Coulee.

The Coal Mine Coulee Site is located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 2 and the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 11, T15N, R11E in Judith Basin County, Montana. The latitude is 47°05.0' and longitude 110°17.5'. This site is found on the 7½ minute quadrangle Cayuse Basin, Montana at an approximate surface elevation of 4740 feet.

It is situated 5½ miles southwest of Stanford. Access to the site is by proceeding 5 miles southeast of Stanford down the Wolf Creek drainage. The road forks at this point. Take the left (southern) fork down Running Wolf Creek for just over 1 mile. There is a junction in the road where the right hand junction goes into a farm house and the left hand (southeast) fork goes up Coal Mine Coulee. Proceed up Coal Mine Coulee just over ½ mile until the reclaimed area is visible (with an AMRB fence around it) to the left. The subsidence holes in Section 11 is about 1 mile further by road. Access is shown on the Cover Sheet and the Coal Mine Coulee Site Plan.

NOTES

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REFERENCES

The following references are given in the text. The first reference is the book of [1], and the second reference is the book of [2]. The third reference is the book of [3], and the fourth reference is the book of [4].

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Hughes E.

The Hughes E Site is located in the NW¼ Section 29, T15N, R12E in Judith Basin County, Montana. The latitude is 47°02.5' and longitude 110°12.5'. This site is found on the 7½ minute quadrangle Windham, Montana at an approximate surface elevation of 4760 feet.

It is situated about 5 miles southwest of Windham along Highway 87 running between Great Falls and Lewistown. Access is by turning southwest towards Lehigh at Windham up the Sage Creek drainage. Proceed about 3.9 miles until reaching Lehigh. Take the right hand road fork at Lehigh towards Scholtztown. Proceed 0.6 miles to the southwest, then 0.4 miles due west where the road turns sharply left (south) for 0.13 miles. The road then turns southwest again for about 0.2 miles to the site area. The reclaimed sites are on the hillside on the right and are accessed through a farm gate found just before crossing a cattle guard. Access is shown on the Cover Sheet and the Hughes E Site Plan.

Raynesford "C".

The Raynesford "C" Site is located in the NE¼SE¼ Section 32, T17N, R9E in Judith Basin County, Montana. The latitude is 47°11.2' and longitude 110°35.4'. This site is found on the 7½ minute quadrangle The Arch, Montana at an approximate surface elevation of 4900 feet.

It is situated south of and half-way between Raynesford and Geyser on Highway 87 between Great Falls and Lewistown. Access can be obtained from either Geyser or Raynesford. The easiest access is to proceed 2½ miles east from Raynesford and turn right (southeast) down Big Otter Creek. Proceed about 6 miles until the reclaimed area is visible on the hillside to the left (east). Access is shown on the Cover Sheet and the Raynesford "C" Site Plan.

Summary

The report is divided into two main sections. The first section, 'Investment Performance', provides a detailed analysis of the fund's performance over the past year, comparing it to its benchmark and peer funds. The second section, 'Investment Strategy', outlines the fund's investment approach and the role of the investment manager.

The fund's performance was strong, exceeding its benchmark and peer funds. This was primarily due to the fund's investment in high-quality equities, which performed well over the period. The fund's investment strategy was well-aligned with its investment objectives, and the investment manager played a key role in achieving this performance.

The fund's investment strategy is based on a long-term, value-oriented approach. The fund invests in companies with strong fundamentals, including a solid track record of earnings growth and a strong balance sheet. The fund's investment manager is responsible for identifying and selecting investments that meet these criteria.

The fund's investment manager is a highly experienced professional with a proven track record of successful investment management. The fund's investment manager is responsible for the day-to-day management of the fund's investments, including the selection and monitoring of investments.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

1.1.2 Land Ownership

Ownership of each site is as follows:

<u>SITE NAME</u>	<u>LOCATION</u>	<u>LANDOWNER/CONTACT</u>
<u>CASCADE COUNTY</u>		
Cottonwood Creek	NW¼SW¼SE¼ of Section 7, T18N, R5E	Richard Knaup 263 Cottonwood Coulee Road Stockett, MT 59480 406-736-5434
Dolena Well	SW¼NW¼NW¼ of Section 7, T18N, R5E	Anna Leah Dolena P.O. Box 61
Stockett, MT 59480	406-736-5507	
Stockett- Westridge	S½NW¼ of Section 36, T19N, R4E	Ernest and Marilyn Chartier P.O. Box 96 Sand Coulee, MT 59472 406-736-5366
		Eleanor Singles Star Route Stockett, MT 59480 406-736-5575
Vents	E½SE¼SE¼ of Section 24, T19N, R4E	Ernest and Marilyn Chartier P.O. Box 96 Sand Coulee, MT 59472 406-736-5366
Centerville "C"	SE¼ of Sec. 18 and the NE¼ of Sec. 19, T19N, R5E	Otto E. Johnson Star Route, Box 67 Sand Coulee, MT 59472 406-736-5153
		Leo Marko P.O. Box 66 Sand Coulee, MT 59472 406-736-5389 Centerville School Board

NOTICE OF PUBLIC HEARING

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

1.1.2 Land Ownership (Cont)

<u>SITE NAME</u>	<u>LOCATION</u>	<u>LANDOWNER/CONTACT</u>
<u>CASCADE COUNTY</u>		
Work Area 23	SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 13, T19N, R4E	Rose M. Frantzich 1091 Helena Avenue Helena, MT 59601 406-443-1402 Violet F. Hills and Joan Wheeler P.O. Box 127 Chester, MT 59522 406-759-5437 (H) 406-759-5477 (W) Big Stone Colony Andy Wurz P.O. Box 70 Sand Coulee, MT 59472 406-736-5401
Mining Coulee	E $\frac{1}{2}$ E $\frac{1}{2}$ of Section 23, T19N, R4E	Ernest and Marilyn Chartier P.O. Box 96 Sand Coulee, MT 59472 406-736-5366
Belt Culvert	E $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ and SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 26, T19N, R6E	Mayme Ballatore c/o Frank Ballatore P.O. Box 344 Belt, MT 59412 406-277-3244 Ron Carlson P.O. Box 348 Belt, MT 59412 406-277-3865

Lead Developer: [Name]

Page 1

PROJECT CONTACT

PROJECT

PROJECT

PROJECT

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

Project Manager
[Name]
[Address]
[City, State, Zip]

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

1.1.2 Land Ownership (Cont)

<u>SITE NAME</u>	<u>LOCATION</u>	<u>LANDOWNER/CONTACT</u>
<u>CASCADE COUNTY</u>		
Anaconda	SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 26, T19N, R6E	George and Paula Drga 2238 Tiger Butte Road Belt, MT 59412 406-277-3249 <u>Access Road</u> Patricia Irvine 20940 Hubbard Cutoff Road Aurora, OR 97002 503-678-2469
<u>JUDITH BASIN COUNTY</u>		
Coal Mine Coulee	SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 2, T15N, R11E	Hughes Newford Company Mrs. G. Curtis (Ruth) Hughes P.O. Box 558 Stanford, MT 59479 406-566-2650 <u>Ranch Managers</u> John and Betty Sampsel (daughter & son-in-law) 406-566-2700
	SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 11, T15N, R11E	Bureau of Land Management Scott Haight Judith Resource Area P.O. Box 1160, Airport Road Lewistown, MT 59457 406-538-7461
Hughes E	NW $\frac{1}{4}$ of Section 29, T15N, R12E	Peter and Violet Marcoff 135 South Hilltop Road Columbia Falls, MT 59479 406-892-2204

Project Management

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

1.1.2 Land Ownership (Cont)

<u>SITE NAME</u>	<u>LOCATION</u>	<u>LANDOWNER/CONTACT</u>
------------------	-----------------	--------------------------

JUDITH BASIN COUNTY

Raynesford "C"	W½NE¼SE¼ of Section 32, T17N, R9E	McKay Trust c/o Mary McKay Joyner 425 Riverview Court Great Falls, MT 59404 406-761-3378
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1.1.3 History

The history (if any existed) on each of these projects is found within the original bid packages and final reports for these projects. No history is repeated herein.

1.2 Project Objectives/Site Problems

The project objective is to reclaim the 12 project sites. The site problems include: open adits, debris, subsidence holes, open vents, and a contaminated domestic water well and associated home plumbing, coal slack areas, failed revegetation from previous reclamation efforts, failed riprap channels from previous reclamation and an iron stained channel. A brief description of each of the twelve sites is presented below. This description is taken from the bid package. Several sites required minor to major variation of the proposed work. The actual work involved is addressed under Section 4 - Construction.

Cottonwood Creek.

The work was to close one small subsidence hole (5'x5'x2' deep) on a hillside as shown on the Site Plan and as described herein.

The Contractor will perform all work at this site by hand. Remove ½ yard (5'x5'x6" deep) of topsoil from the subsidence hole and stockpile immediately adjacent to it. Hand backfill the subsidence hole with 2 cubic yards of loose rock located adjacent to the apple tree 50 feet away (downhill). Do not disturb the tree. After backfilling, replace the topsoil.

All disturbed areas (0.001 acres) will be revegetated. Broadcast seed (0.05 pounds) and fertilize (0.13 pounds) and then hand spread and crimp the mulch (3 pounds). No straw bale dikes will be required at this site.

DATE: 10/15/81
SITE NAME: [illegible]
LOCALITY: [illegible]

PLANT: [illegible]
SPECIES: [illegible]
COLLECTOR: [illegible]
LOCALITY: [illegible]
DATE: [illegible]
TIME: [illegible]

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Dolena Well.

The goal is to drill a new water well and install a pump, hot water heater, pressure tank and replace all interior plumbing. The work is shown on the Site Plan and is described herein.

The well construction shall be performed by a licensed water well contractor. The work entails drilling a 9-inch diameter hole to a depth of approximately 300 feet (estimated top of the Madison Limestone at 100 feet of depth with 200 feet of penetration into the Madison Formation). The six inch casing will be installed in the top 270 feet with a 30 foot screen on the bottom.

The water line will run 50 feet from the well head to the house (about 60 cubic yard excavation). The topsoil over this trench will be salvaged and temporarily stockpiled when the trench is excavated (8 cubic yards). This is a brand new line and will not tie into the existing house line. This work item will not be considered complete until the well is pump tested, the water analysis returned, and all tasks are approved by the Engineer.

The Contractor will supply a new pressure tank and new hot water heater. All electrical work including running power for the pump will be performed by a licensed electrician. The Contractor will have all of the plumbing pipes replaced throughout the house by a licensed plumber. Everything handling water will be replaced except the faucets, shutoff valves, sinks, toilets, and tub.

The trench (50 feet long by 8 feet wide = 0.01 acres) leading from the house to the well shall be revegetated. The Contractor will broadcast seed (0.48 pounds) and fertilize (1.30 pounds) and then hand crimp the mulch (30 pounds) over the backfilled water line trench. No straw bales dikes will be required at this site.

Stockett-Westridge.

The purpose of this project is to amend acidic coal waste with lime and establish a viable vegetative cover. Work tasks are shown on the Site Plan and described herein.

The Contractor will make the necessary site access improvements. All road improvements must be kept to a minimum and must be approved by the Engineer prior to beginning work. Following access improvement, the fences shown on the Site Plan shall be removed (as required) and stored for replacement after construction is completed. The fence shall be replaced after reclamation. All parts from the existing fence including line posts, wire and stays shall be salvaged and used in the replaced fence. If additional fence is required, fence materials shall be new.

Cover soil (4,820 CY - average 10" deep) shall be stripped, stockpiled, and replaced. Cover soil shall be stripped to within one-half inch ($\frac{1}{2}$ -inch) of underlying coal waste

Continued

The first of these is the fact that the American Medical Association is not a charitable organization, and therefore it is not subject to the same regulations as such organizations.

The second of these is the fact that the American Medical Association is not a government agency, and therefore it is not subject to the same regulations as such agencies.

The third of these is the fact that the American Medical Association is not a political party, and therefore it is not subject to the same regulations as such parties.

The fourth of these is the fact that the American Medical Association is not a religious organization, and therefore it is not subject to the same regulations as such organizations.

The fifth of these is the fact that the American Medical Association is not a labor union, and therefore it is not subject to the same regulations as such unions.

The sixth of these is the fact that the American Medical Association is not a trade association, and therefore it is not subject to the same regulations as such associations.

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The ninth of these is the fact that the American Medical Association is not a public corporation, and therefore it is not subject to the same regulations as such corporations.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

from the lime treatment area (3.58 acres). Cover soil thickness at the site (based on seven soil test holes) ranges from four to twelve inches. The Engineer will determine the depth of cover soil to be salvaged, by staking salvage depth, prior to construction. Care must be taken to prevent the underlying coal waste or porcelainite debris from being mixed with the salvaged cover soil. Cover soil shall be stockpiled within the construction boundary at an area approved by the Engineer.

After coversoil stockpiling, all waste (26,000 CY) shall be stripped from the lime treatment area and neutralized with lime. The average stripping depth to bedrock is assumed to be 54 inches after coversoil removal. This depth is variable with one backhoe test pit reaching a depth of 98 inches of waste. The waste will NOT be crushed. The initial boxcut or pit will be temporarily stockpiled as shown on the Site Plan. Each successive pit can then be placed in the previous hole until the temporary stockpile is placed in the final hole. The waste will be replaced and limed in 6-inch (or less) thick lifts. This method requires uniform lime mixing (incorporation) with equipment designed for such mixing throughout the entire soil horizon in accordance with Technical Specification 301 and as specified on the Site Plan. The lime rate is 50 tons/acre/6" slice of a mixture of 60% calcium carbonate (based on 100% ECCE) and 40% calcium oxide (CaO) or calcium hydroxide (Ca(OH)₂).

The site shall be rough graded to match the existing contours. The position of the existing erosion control terraces shall be maintained during rough grading. After the coal waste is amended, cover soil shall be reapplied to the amended area in one lift. The cover soil shall be amended with lime at the rate of 10 tons per acre. Lime (100% calcium carbonate) shall be mixed into the cover soil with standard farm equipment to a depth of ten inches. Care must be taken to avoid mixing the cover soil with the underlying amended coal waste. Tilling equipment for this operation shall incorporate the lime by operating parallel to the contour.

Additional backhoe work and testing was performed on 10/21/1993 prior to start of construction. These tests were done to confirm the required lime rate per ton.

Coal waste lime requirements are 1611.0 tons (3.58 acres x 50 t/ac/6" slice x 9 slices). Coversoil lime requirements are 35.8 tons (3.58 acres x 10 t/acre). After coversoil amendment, imported off-site topsoil (2,888 cubic yards) shall be applied over the 3.58 acres and thoroughly mixed with the coversoil.

Final grading shall be completed prior to seedbed preparation. Finish grading shall insure drainage is provided to the existing drainage ditches.

A portion of the existing riprapped channel, located on the south and west side of the project area, shall be repaired (about 400 linear feet of total length in several different spots) where directed by the Engineer in the field. Repairs will consist of hand-laid native riprap in the channel where the channel is eroding, on the bank, or where riprap is missing. Hand-laid riprap must meet the minimum size of eight inches in diameter

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

(maximum 12-inch in diameter). The spot where the ditch failed and over-flowed into the field must be dug out and repaired. The non-riprapped channel shall be regraded for a length of 300 linear feet.

All disturbed areas (4.71 acres of lime treatment area and 2 stockpile areas) shall be drill seeded (113.0 pounds) and fertilized (612.3 pounds). Then mulch (13,620 pounds) shall be applied and crimped over all of the 4.54 vegetated acres (excluding the area where erosion control mat is applied).

Erosion control mat (North American Green SC-150 or equivalent) shall be placed on the north side of the southern end riprap diversion ditch (19 foot width - 840 square yards of mat) as shown on the Site Plan. Staple length shall be a minimum of 8 inches.

A straw bale dike (one row 1230 feet in length-approximately 308 bales) will be placed end-to-end along the three sides of the construction area as shown on the Site Plan.

Vents.

The goal is to backfill 5 small vents, neutralize the coal slack pile, and then revegetate. Work tasks are shown on the Site Plan and described herein. All work tasks shall be performed by hand with no vehicle access to be developed.

The Contractor will hand excavate these holes to facilitate backfilling. The holes (which average 6-8" in diameter and several feet deep) will be hand backfilled and compacted with adjacent material (2 CY) to within 12 inches of the surface. The top 12 inches of each hole will be sealed with concrete to prevent any air from reaching the adjacent mine fire zone. Each hole will require one 60 pound bag of redi-mix concrete. The coal slack pile (50'x50' area) shall be neutralized. Lime (0.12 tons) shall be applied at the rate of 2 tons/acre/6" slice. It shall be hand mixed to a 6 inch depth.

All disturbed areas (0.06 acres) shall be broadcast seeded (2.88 pounds) and fertilized (7.80 pounds). Then the mulch shall be applied and hand crimped over the vegetated area (180 pounds). No straw bales dikes will be required at this site.

Centerville "C".

The purpose of this project is to establish vegetation on several barren areas and to investigate the reason for failure of a limestone trench by excavating it. Work tasks are shown on the Site Plan and described herein.

The Contractor will excavate the limestone trench after coordinating the digging time with the AMRB. Several AMRB staff will be present to determine the reason for failure of the trench. The trench is approximately 10 feet wide by 135 feet long by at least 2 foot deep (actual depth is unknown). Due to the uncertainty of time involved, this work item will be based on backhoe equipment time with operator (approximately 1 day).

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

All disturbed areas (1.94 acres) will be revegetated. Broadcast seed 0.39 acres (19.7 pounds) and fertilize (50.7 pounds) the embankments around the three cells. Drill seed 1.55 acres (37.2 pounds) and fertilize (201.5 pounds) an open area and the area around the limestone trench excavation. Then mulch shall be applied and hand crimped on Cells 1, 2 and 3 (1,170 pounds) as shown on the Site Plan. Machine crimp the mulch over the other areas (4,650 pounds).

A straw bale dike will be placed along the downhill side of the limestone trench excavation to control erosion potential. One row of approximately 35 bales will be placed end-to-end below the excavation area (assuming 140 foot wide disturbance area and 4 foot long straw bale-to be field adjusted).

Work Area 23.

The purpose of this project is to amend acidic coal waste with lime and establish a viable vegetative cover. A french drain will be installed. Work tasks are shown on the Site Plan and described herein.

Access to the work area will be gained by removing fence as necessary. The fence shall be replaced after reclamation. All parts from the existing fence including line posts, wire and stays shall be salvaged and used in the replaced fence. If additional fence is required, fence materials shall be new.

Cover soil (110 CY) shall be stripped from the lime mixing area (0.135 acres) to a minimum of 6 inches and be stockpiled on the southwest end (in a 40'x40' area). The lime mixing area shall be prepared for replacement of cover soil by ripping to a depth of 12 inches with ripper teeth spaced a minimum of one-foot apart. Cover soil shall be replaced on the mixing area in one six-inch lift.

All waste (1573 CY) shall be stripped from the area (0.65 acres) designated on the Site Plan to an average depth of 1½ feet (ranges from ¼ foot to over 2 feet) below the ground surface or until bedrock is encountered. The soil shall be moved to the lime mixing area and spread in lifts no greater than six inches. Rocks greater than four-inches in diameter shall be removed from the stripped material and stockpiled in a location designated by the Engineer.

Lime shall be applied and uniformly mixed with the soil at a rate of 60 tons per acre for each six-inch lift. Lime shall meet the specifications set forth in this document. Lime shall be incorporated with equipment that provides for a complete and uniform mixing of the lime and soil. After each six-inch lift is amended, another six-inch lift can be placed on top and amended in a similar manner. Lime requirements are 117.0 tons (0.65 acres x 60 tons/acre/6" slice x 3 slices). After amendment incorporation, amended soil shall be placed on the excavated slope and graded to match existing contours. Prior to placement of the last (top) six-inch lift of amended soil, topsoil (525 cubic yards-enough to cover entire 0.65 acres six-inches deep) shall be applied and thoroughly

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

mixed with the top six-inch lift. This twelve inches of amended soil and topsoil mix shall then be replaced and prepared for vegetation. Lime mixing areas shown on the Site Plan are only intended to indicate the limits of where mixing can occur.

An interception drain will be installed as shown on the Site Plan. The location will be staked in the field by the Engineer prior to construction of the drain. The purpose of the drain is to collect seep water from clay materials overlying weathered sandstone bedrock and allow the water to drain into the bedrock beneath the drain. The 200 foot long trench will be excavated to the depth of weathered bedrock (estimated at seven feet based on two test pit holes). The trench (3 feet wide by 200 feet long) will be graded to drain to the northeast at a minimum grade of 1% and a maximum grade of 2%. The trench shall be constructed in accordance with OSHA regulations regarding excavations.

The trench shall be lined with filter fabric equivalent to Mirafi® 140N. Filter fabric shall be installed according to manufacturer's specifications. The width of the filter fabric shall be wide enough to completely envelope the limestone aggregate with no seams. The overlap of the fabric shall be placed as shown on the Site Plan with a minimum overlap of one-foot.

After the drainage fabric is installed, limestone aggregate shall be placed in the trench to a height of four feet above the bottom of the trench. Limestone aggregate shall be a minimum of 90% pure calcium carbonate equivalent. The gradation of the limestone aggregate shall be 100% passing the 3-inch sieve and less than 10% passing the 1½-inch sieve.

A bentonite seal will be placed on the downslope side of the trench and on top of the limestone aggregate. The bentonite seal will be a minimum of one-foot thick along the side and on top of the limestone aggregate. The bentonite supplied shall be high swelling sodium montmorillonite clay, equivalent to Envirogel 10® manufactured by Wyo-Ben, Inc. High swelling is defined as the ability of 2 grams of the bentonite, when mechanically reduced to a minus 100 mesh, to swell in water to an apparent volume of 16 cubic centimeters (cc) or more when added a little at a time to 100 cc of distilled water. The bentonite shall meet a minimum gradation of 100% passing the No. 4 and 20% passing the No. 200 sieves. Bentonite shall be placed dry and compacted with two passes of a vibratory plate compactor. Native soil shall be placed on top of the limestone aggregate drain and compacted to 90% dry density at optimum moisture as determined by AASHTO Method T-99.

The terminal end of the drain on the northeast side will be constructed as shown on the Site Plan detail. This terminal end will be approximately 10 feet long. This end will be constructed so that the limestone aggregate is brought to the surface, eliminating the bentonite top seal. The filter fabric on this terminal end will be keyed into the sides of the trench as shown. Key trenches shall be a minimum of six-inches deep. The bentonite seal on the downslope side of the trench shall be brought to within one-foot

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of a young nation that grew from a small colony of settlers to a powerful world superpower. It is a story of the struggles and triumphs of a people who have shaped the course of human history.

The story begins with the first settlers who came to the Americas in search of a new life. They found a land of vast resources and a people who were different from anything they had ever seen. Over time, the settlers and the native Americans began to interact, and a new society began to emerge.

The story continues with the growth of the colonies and the struggle for independence. The colonies fought a war against the British, and they won. They became a new nation, the United States of America.

The story then moves to the period of the American Revolution and the early years of the new nation. The United States fought a war against the British, and they won. They became a new nation, the United States of America.

The story then moves to the period of the American Civil War and the Reconstruction era. The United States fought a war against the South, and they won. They became a new nation, the United States of America.

The story then moves to the period of the American Industrial Revolution and the Progressive Era. The United States became a world power, and it began to shape the course of human history.

The story then moves to the period of the American Great Depression and the New Deal. The United States emerged from the depression as a stronger nation, and it began to shape the course of human history.

The story then moves to the period of the American Cold War and the Space Age. The United States became a world superpower, and it began to shape the course of human history.

The story then moves to the present day. The United States is a world superpower, and it is shaping the course of human history.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

of the surface as shown on the detail drawing. Native sandstone riprap shall be placed along the downslope side of the drain where limestone aggregate is filled to the surface in a strip approximately three feet wide. Riprap shall be a minimum of eight-inches in diameter.

One monitoring tube will be installed at the northeast end of the drain. The monitoring tube shall be 1½-inch Schedule 40 PVC pipe with an end cap glued on the bottom end. The pipe shall be factory slotted or saw slotted. Saw slots shall be with a blade no wider than a standard metal hacksaw blade. Saw slots shall be cut on a spacing of one-inch so that they radiate around the pipe to a height of within one-foot of the surface. The pipe shall have a stick-up no greater than six-inches. The top shall be capped with a standard cap.

All disturbed areas (0.82 acres) will be revegetated. Drill seed (19.7 pounds) and fertilize (106.6 pounds) all areas. Then mulch shall be applied and crimped over the flatter areas #3, #4, lime mix area and topsoil stockpile (0.36 acres requiring 1,080 pounds). Erosion control mat (North American Green SC-150 or equivalent) shall be placed on the two steep areas #1 and #2 (0.46 acres - 2,220 square yards of mat). Staple length shall be a minimum of 8 inches.

A straw bale dike (one row 250 (90+160) feet in length-approximately 63 bales) will be placed end-to-end along the downhill side of the replaced neutralized waste material.

Mining Coulee.

The goal is to backfill 3 subsidence holes and four adits and then revegetate. Work tasks are shown on the Site Plan and described herein.

The Contractor will strip 1 foot of cover soil (34 cubic yards) from the borrow area and stockpile it immediately adjacent to the borrow area as shown on the Site Plan. The borrow area is adjacent to Adit 2 and consists of the nose of the slope. The borrow area will be staked by the Engineer prior to construction.

The Contractor will completely backfill each subsidence hole (5'x12'x25'D, 13'x14'x9'D, 2.5'x4'x2.5'D) and each of the adits (6" diameter x ? length, 16"x22"x ? length, 3.5'x8'x25' long, and 2'x4'x11'+ long). The total fill required for these seven openings is estimated at 170 cubic yards. Excavate the adit openings as necessary to allow for backfilling. Backfill the subsidence holes and adits with borrow material. The backfill material will extend a minimum of 10 feet into each adit from the adit openings. Place 6 inches of stockpiled cover soil over the backfilled adits, subsidences and the borrow area.

All disturbed areas (0.05 acres) will be revegetated. Broadcast seed (2.40 pounds) and fertilize (6.50 pounds) and then hand crimp the mulch (150 pounds) over the backfilled areas (subsidence holes and adits), the borrow area and access roads. No straw bales

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

dikes will be required at this site.

Belt Culvert.

The goal is to remove the iron-stained material in the ditch, neutralize the area, and revegetate. The upper end of the ditch will be redesigned. Farm fence will be bought for the two landowners adjacent so that they divide their property within the existing AMRB fence.

The Contractor needs to contact all utilities and underground TV cable to have them mark their lines prior to any earthwork. It is possible that the TV cable runs under the ditch on the north side of the road culvert.

The Contractor will purchase fencing material and deliver it to Frank Ballatore, 44 Anaconda Road, Belt, MT 59412, phone 406-277-3244. The 2 landowners (Frank Ballatore and Ron Carlson) will install the fence at their expense. The fencing material will be enough to complete 400 linear feet of F-4M farm fencing within the AMRB existing fence. Materials will include at a minimum: 4 wood panel posts, 24 metal line posts, 1600 linear feet of barb wire, 26 wire stays, 2 pounds of fence staples, 100 metal post fence clips with all materials meeting Technical Specification 520.00.

All of the iron-stained material in the ditch will be excavated (estimated at 392 cubic yards) to a average depth of 12 inches [upper (southern) end: 223 feet x 12 feet wide; lower (northern) end: 575 feet x 12 feet wide and 125 feet x 8 feet wide]. In addition, 30 feet of the Type I ditch coming down the hillside on the southern end will also be removed (estimated at 9 cubic yards). All of this material will be hauled to and disposed of at an approved landfill facility. Using a weight of 2400 lbs/yd³, the 401 yards of material should be around 500 tons.

The lower 30 feet of current Type II ditch coming downhill from the railroad grade will be relocated. A curve will be put into the ditch. This will require 41 feet of new Type II ditch. The excavated material will be placed in the old ditch alignment. The remainder of the ditch will be reconstructed as Type I ditch with a minimum 18 inch depth with 1H:1V sideslopes.

All disturbed areas above the crest line of the new constructed ditch (0.16 acres) will be revegetated. The Contractor will broadcast seed (7.68 pounds) and fertilize (20.8 pounds). Then mulch shall be applied and hand crimped over the 0.16 acres (480 pounds). No straw bales dikes will be required at this site.

Anaconda.

The goal is to close 1 mine adit, neutralize two coal slack piles, dispose of about 1 pickup load of debris, and then revegetate all disturbed areas.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

The Contractor will backfill the 1 adit (3'8"H x 12'W at the entrance and 4'6"H x 9'W ten feet inside x 100' + long) to a minimum depth of 10 feet measured along the roof. Fill will consist of coal slack (initial 7 feet of fill-17 cubic yards) and material from the borrow area (7 cubic yards) for the last 3 feet of material going into the adit and exterior slope.

The 2 coal slack piles (#1: 50'W x 75'L; #2: 20'x20') shall be neutralized. Lime shall be thoroughly mixed into the top 6 inches of the coal slack piles at the rate of 40 tons/acre/6" slice over the 0.10 acres (4.0 tons required).

The coal slack areas shall then be covered with 6 inches of material (81 cubic yards) from the borrow area (75' x 75' x 0.5' stripping depth) after stripping and temporarily stockpiling the borrow area topsoil (105 cubic yards to a 6 inch depth) adjacent to the borrow area. After borrowing is complete, replace the topsoil over the borrow area.

All disturbed areas (0.10 acres of coal slack areas and adit entrance and 0.13 acres of borrow area = 0.23 acres) shall be broadcast seeded (11.0 pounds) and fertilized (29.9 pounds). Then the mulch shall be applied and crimped over the vegetated area (690 pounds).

A straw bale dike (one row 250 feet in length-63 bales (assuming 4 foot long bales)) will be placed end-to-end along the downhill side of the construction area. It will run from the small coal slack area to below the borrow area.

Coal Mine Coulee.

The goal is to backfill 2 subsidence holes (one with an air shaft in the bottom of it) and revegetate this area and then revegetate a barren hillside. Work tasks are shown on the Site Plan and described herein.

The Contractor will strip and stockpile the topsoil from each subsidence hole (5 cy) and the 30'x30' borrow area (17 cy) immediately adjacent to each hole. The two subsidence holes will require 28 cubic yards of fill (4'x5'x2' deep and 14'x16'x3' deep with a 1½'x1½'x8' plus deep hole in the bottom). After backfilling with adjacent material, respread the topsoil over the backfilled subsidence area and the borrow area.

The barren hillside (115½'x165' inside the fence plus 25'x30' outside the fence) in Section 2 is to be revegetated.

All disturbed areas (0.48 acres) will be revegetated. The two subsidence holes and borrow area (0.03 acres) and barren hillside (0.45 acres) will be broadcast seeded (23.1 pounds) and fertilized (62.4 pounds). Then hand spread and hand crimp the mulch (1,440 pounds). No straw bales dikes will be required at this site.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Hughes E.

The goal is to backfill 2 subsidence holes and one adit and then revegetate all disturbed areas. Work tasks are shown on the Site Plan and described herein.

The Contractor will strip the topsoil from each subsidence hole (6 cy), the top of the adit (1 cy) and the borrow area (70 cy) and stockpile immediately adjacent to each disturbance. The two subsidence holes (13'x15'x7' deep and 6½'x10'x5' deep) will require 63 cubic yards of fill. The adit shall be excavated open (7 cy) for a distance of 6 feet back from the adit entrance (4'w x 6'l x 8' cover depth) to facilitate adit backfilling. Then backfill the adit (8 cy) for a total distance of 25 feet from the original entrance. After backfilling with adjacent fill material, respread the topsoil over the backfilled subsidence holes, the adit, and the borrow area.

All disturbed areas (0.10 acres) will be revegetated. Broadcast seed (4.80 pounds) and fertilize (13.0 pounds) and then hand crimp the mulch (300 pounds) over the two backfilled subsidence holes, the backfilled adit and the borrow area. No straw bales dikes will be required at this site.

Raynesford "C".

The goal is to close 2 mine adits, neutralize five coal slack piles and then revegetate all disturbed areas. Work tasks are shown on the Site Plan and described herein.

One section of fence will need to be removed for access from the county road. The fence shall be replaced or repaired after construction is completed. The Contractor will backfill the 2 adits (adit #1: 30'w x 16"h x 25'+ long with adit #2: 6-16"w x 25"h x unknown length) by hand with adjacent loose rock (2 cubic yards in adit #1 & 1 cubic yard in adit #2).

The 5 coal slack piles (#1: 25'-60'w x 200'L; #2: 30'x40'; #3: 30'x70'; #4: 40'x40'; #5: 40-50'w x 200'L) shall be neutralized. Lime shall be thoroughly mixed into the top 6 inches of all coal slack piles at the rate of 20 tons/acre/6" slice over the 0.63 acres (12.6 tons required).

All coal slack areas shall then be covered with 6 inches of material (508 cubic yards) from the borrow area (96' x 96' x 1.5' stripping depth) after stripping and temporarily stockpiling the borrow area topsoil (171 cy). After borrowing is complete, replace the topsoil over the borrow area.

All disturbed areas (0.63 acres of coal slack areas and 0.22 acres of borrow area = 0.85 acres) shall be drill seeded (20.40 pounds) and fertilized (110.50 pounds). Then the mulch shall be applied and crimped over the vegetated area (2,550 pounds). No straw bales dikes will be required at this site.

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NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

2. RESPONSIBLE PARTIES

2.1 Contractor

The successful low bidder was Shumaker Trucking and Excavating. Their address is shown below:

Schumaker Trucking and Excavating
P.O. Box 1442
Great Falls, MT 59043
Phone: 406/727-3537
MT Contractor's License: 5199A

2.2 Reclamation and Engineering Plan

Spectrum Engineering was assigned the responsibility of preparing the reclamation and engineering specifications prior to contractor selection. Plans conforming to the general requirements were formulated in the field to meet specific conditions.

Spectrum's address is shown below:

Spectrum Engineering
1413 4th Avenue North
Billings, Montana 59101
Phone: 406/259-2412

2.3 Quality Control Inspection

Spectrum Engineering performed the quality control inspection. The project engineer was Bill Maehl and the construction inspector was Hank Lowe.

2.4 AMRB Coordination

The AMRB Project Manager was Joel Chavez, Montana Department of State Lands, Abandoned Mine Reclamation Bureau.

3. CHRONOLOGICAL LISTING OF EVENTS

3.1 Pre-Bid Conference

The pre-bid conference was held on Tuesday, October 26, 1993 at the Sand Coulee Fire Station. Personnel from Hallet Construction, Barber Excavation, Dick Anderson Construction, Boland Construction, Shumaker Trucking, Sharbano Construction, and Falls Construction Company were in attendance. In addition, Bill Maehl, project

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

engineer from Spectrum Engineering and Joel Chavez, AMRB project manager were also in attendance.

3.2 Bid Date

The bid opening date was Thursday, November 4th, 1993.

3.3 Three Lowest Bids

There were 6 bidders on this project with bids ranging from \$292,384.71 to \$808,709.93. The engineer's estimate was \$228,380.50. The bid tabulations have been included in ATTACHMENT 1. The three lowest bidders are listed below.

Schumaker Trucking	Barber Excavating	Scott Construction
Great Falls, Montana	Great Falls, Montana	Helena, Montana
\$ 292,384.71	\$ 292,458.71	\$ 292,812.26

3.4 Contract Award/Notice of Award/Notice to Proceed

The contract was awarded to the low bidder (Schumaker Trucking) after receiving all of their bonds, stormwater permit, and other required paper-work. The Agreement was signed by DSL on November 5, 1993.

The Notice to Proceed was issued on December 2, 1993. Schumaker Trucking performed all of the earthwork and revegetation. They subcontracted the well drilling to Debuff Drilling from Lewistown, Montana, the plumbing to Enott Plumbing and the electrical work to A.T. Klemens. The work started December 13, 1993 and was completed on June 17th, 1994. They used 83 of the 120 allowed calendar days to complete the work.

3.5 Construction Start-up

The Contractor started mobilizing his equipment to the Dolena Well site on December 13, 1993.

3.6 Change Orders

There were three change orders written for this project. A copy of these change orders are included in this report as ATTACHMENT 2. Change Order 1 was for an additional mine opening at Mining Coulee, an additional vent opening at the Vents Site, additional well depth at the Dolena Well Site, and for quantities adjustment at the Dolena Well and Stockett-Westridge sites. Change Order 1 added \$24,140.11 to the contract price.

Change Order 2 was for additional cover soil handling at the Dolena and Stockett-

UNIT 1: THE HISTORY OF THE UNITED STATES

Before the American Revolution, the British colonies in North America were ruled by the British government. The colonies were not allowed to make their own laws or taxes.

1.1 The American Revolution

The American Revolution was a war between the British and the American colonies.

1.2 The Declaration of Independence

The Declaration of Independence was a document that declared the American colonies as a new nation, free from British rule. It was signed on July 4, 1776.

The Declaration of Independence was written by Thomas Jefferson. It was signed by the members of the Continental Congress.

1.3 The American Civil War

The American Civil War was a war between the Northern states and the Southern states. It was fought from 1861 to 1865.

The Civil War was fought over the issue of slavery. The Northern states wanted to abolish slavery, while the Southern states wanted to keep it.

1.4 The Reconstruction Era

The Reconstruction Era was a period of time after the Civil War when the Southern states were being rebuilt. It lasted from 1865 to 1877.

During the Reconstruction Era, the Southern states were given the chance to join the Union again. However, they had to agree to certain conditions.

One of the conditions was that the Southern states had to abolish slavery. Another condition was that they had to allow African Americans to vote.

The Reconstruction Era was a difficult time for the Southern states. They had to rebuild their economy and their society.

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Westridge sites, a reduction of waste pile handling at Stockett-Westridge, no revegetation at the Dolena Well site (as per owner's request), soil sample excavation pits at Lehigh and Stockett-Westridge, and an increase in the amount of lime at Stockett-Westridge. This change order reduced the project cost by \$3,188.10.

Change Order 3 was for a new mine opening at Hughes E, repair of a stock tank at Centerville C, and for final quantity adjustments at all sites. Change Order 3 added \$40,894.70 to the contract price. Combined these three change orders added a total of \$61,846.71 to the original contract bid price.

3.7 Work Stoppages

A portion of this reclamation project took place during the winter months. As such a number of work stoppages were encountered. Snow and cold shut the project down on the following dates: December 24, January 6 (½ day), January 17, January 18, January 31, February 7 through 11, February 21 (½ day), and February 22 through the 25. No work occurred on December 24 due to Christmas. The project was also shut down from April 4th until June 13th, waiting for snow to melt in order to complete the Raynesford site.

3.8 Requests for Payment

There were four payment requests on this project. Pay Request 1 was for the period from job start through January 23, 1994. The amount completed for this pay request was \$118,323.12. Pay Request 2 was for the period from January 23, 1994 to February 24, 1994. The amount completed for this pay request was \$68,117.70. Pay Request 3 was for the period from February 24, 1994 to April 7, 1994. The amount completed for this pay request was for \$156,975.60. Pay Request 4 was from April 7, 1994 through project completion on June 17, 1994. The amount completed for this pay request was \$10,815.00.

3.9 Substantial Completion

The date of Substantial Completion was June 17th, 1994.

3.10 Final Completion and Approval

The AMRB field inspection took place throughout the project as various sites were completed. all but Raynesford were checked by the first part of April, 1994. The Final Completion date is one year from the Substantial Completion date or June 17, 1995.

3.11 Final Payment

Final payment was made to the Contractor in July of 1994. A copy of the four payment requests have been included in ATTACHMENT 3.

ENVIRONMENTAL IMPACT STATEMENT

The purpose of this study is to determine the potential impacts of the proposed project on the environment. The study will be conducted in accordance with the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

The project is located in the County of San Diego, California. The project area is approximately 100 acres in size and is situated in a rural area. The project is proposed to be used for agricultural purposes.

2.1 Project Description

The project is a 100-acre agricultural project located in the County of San Diego, California. The project is proposed to be used for agricultural purposes. The project is situated in a rural area and is approximately 100 acres in size. The project is proposed to be used for agricultural purposes.

2.2 Project Location

The project is located in the County of San Diego, California. The project area is approximately 100 acres in size and is situated in a rural area. The project is proposed to be used for agricultural purposes. The project is situated in a rural area and is approximately 100 acres in size. The project is proposed to be used for agricultural purposes.

2.3 Project Features

The project features include the following: 1. The project is a 100-acre agricultural project located in the County of San Diego, California. 2. The project is proposed to be used for agricultural purposes. 3. The project is situated in a rural area and is approximately 100 acres in size. 4. The project is proposed to be used for agricultural purposes.

2.4 Project Impacts

The project impacts include the following: 1. The project is a 100-acre agricultural project located in the County of San Diego, California. 2. The project is proposed to be used for agricultural purposes. 3. The project is situated in a rural area and is approximately 100 acres in size. 4. The project is proposed to be used for agricultural purposes.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

4. CONSTRUCTION

4.1 Description of Project Plan

The project plan was to backfill open adits, subsidence holes, and open vents, collect and dispose of debris, construct a new domestic water well and replace the associated home plumbing. The project also covers and neutralizes acidic coal slack areas, repairing a failed riprap channel from previous reclamation, installation of an interceptor drain and remove iron stained material from a channel, neutralizing that area and revegetating the area.

4.2 Major Equipment List

<u>Type</u>	<u>Make/Model</u>	<u>Size/Horsepower</u>	<u>No. on Job</u>
Drill Rig	Subcontractor	DeBuff Drilling	
Scraper	Caterpillar/627B	20 yd/300 Hp	2
Bulldozer	Caterpillar/D-6C	155 Hp	1
Bulldozer	Caterpillar/D-8	285 Hp	1
Bulldozer	Caterpillar/D-6C	155 Hp	1
Loader	Caterpillar/980 C	6 3/4 yd/270 Hp	1
Excavator	Caterpillar EL 300	200	1
Loader	Caterpillar/966 D	4 1/4 yd/200 Hp	1
Grader	Caterpillar/140 G	150 Hp	1
Backhoe	John Deere/450D	70 Hp	1
Backhoe	Caterpillar/436 B	84 Hp	1
Backhoe	Case/680 K		1
Truck	Bottom Dump		2
Service Truck	International/190		1
Pugmill			1
Farm Disk		26 inch	1
Tractor	Case/995		1
Crimper	Homemade	8 foot	1
Seed Drill	Brillion	6 foot	1

4.3 Contractor Employees

The number of contractor employees on the job varied depending on the number of sites being reclaimed concurrently. Generally the number of employees working per day varied between 4 and 7.

4.4 Construction Activities

The project began with a pre-construction meeting on December 6, 1993 at Tracy, Montana. Persons in attendance were Joel Chavez (Montana Department of State Lands), Gene Schumaker, Duane Schumaker, and Joe Aline (Schumaker Trucking), and Bill Maehl and Henry Lowe (Spectrum Engineering). The construction began with the

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Dolena Well, and proceeded to the following sites: Vents Site, Mining Coulee Site, Cottonwood Creek Site, Stockett-Westridge Site, Work Area 23 Site, Centerville C Site, Anaconda Site, Hughes E Site, Coal Mine Coulee Site, Raynesford C Site, Belt Culvert Site and finally back to the Raynesford C Site. Generally at least 2 sites were worked on at the same time.

No water was provided for dust suppression at any of the sites. In addition, some sample hole excavation was completed at the Lehigh site.

Dolena Well

The drilling rig was mobilized to the site and set up on the afternoon of December 13, 1993. A 9" well was drilled to a depth of 137 feet on December 14th and 15th extending 20 feet into the Madison Limestone. A 6" casing was installed and the annular space was grouted. Beginning December 16, a 6" hole was drilled into the Madison Limestone through the existing 6" casing. At 300' below ground surface no water was encountered and the construction inspector contacted Bill Maehl who contacted Joel Chavez. All agreed to continue drilling the well. Water was encountered at 565' below ground surface, but, was lost as the drilling continued. Water was encountered again at 725' below ground surface at 10 gallons per minute. The net result was an additional 420 feet of well drilling and casing over the estimated depth.

On December 29, 30' of 4" well screen casing and 605' of 4" steel casing were installed. On January 13, 1994 the water line trench was excavated from the well to the house and the 1¼" PVC water pipe and the power lines for the submersible pump were installed. An additional 60' of waterline trench was required due to a change in location of the water well. This additional length also added 9.6 cubic yards of coversoil that was stripped, stockpiled and replaced. This trench was backfilled on January 14. On January 27 the subcontractor, Debuff Drilling, installed the pump in the well. The additional well depth also changed the pump, piping, and other work items associated with the well. In addition, the grouting of the well was increased to 117 feet to completely grout the hole to the top of the Madison formation.

One hour of surging and three hours of development (four hours total) were used for the water well versus the estimated six hours. The additional surging and developing time in the bid package was not used.

On February 17, 1994 Enott Plumbing and A.T. Klemens Electric (subcontractors to Schumaker Trucking) installed all the plumbing and completed the electric requirements within the house. A new hot water tank and pressure tank were also installed inside the house at this time.

On February 20, 1994 the construction inspector was contacted by the contractor stating that the house did not have water from the new well. It was discovered that the pitless adaptor had froze due to settlement around the well casing. The pitless adaptor

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

and the associated piping were repaired and the settled area was backfilled. The disturbed areas were not revegetated as per the owner's request. This site was completed on March 15, 1994. Due to an elevated iron level in the completed well water, the AMRB authorized the installation of a Brunner "iron buster" water softener to be installed by Talon Plumbing and Heating in late August after Spectrum secured competitive bids.

Vent Site

Preconstruction pictures were taken by the construction inspector on December 15, 1993. The vents were hand backfilled to within 12" of the surface on December 27th. One additional vent (18" diam. by 10' deep) was found 150' south of the five vents. This vent was also backfilled at this time. The top 12" of each vent was sealed with concrete on December 31, 1993.

The coal slack pile was neutralized with lime on December 31, 1993. Finally, the site was revegetated with the mulch being hand crimped on January 3, 1994.

Mining Coulee Site

Preconstruction pictures were taken on December 27, 1993. The four adits were closed by hand on December 28, 1993. Adit #1 had opened up and was larger than it was shown on the plans. One additional adit was found during the reclamation and was sealed. Topsoil from the subsidence holes were removed and stockpiled. The three subsidence holes were backfilled using a backhoe on December 29, 1993. The material adjacent to the subsidence holes was used to backfill the holes and as such the borrow area was not used. Cover soil was then placed over the backfilled subsidence holes. All disturbed areas were then revegetated.

Cottonwood Creek Site

The construction inspector met with a representative of Shumaker Construction on December 27, 1993 at the site. The topsoil was removed from the subsidence hole and stockpiled. The subsidence hole was backfilled with rocks by hand on January 3, 1994. The topsoil was replaced and all the disturbed areas were revegetated on March 15, 1994. The mulch was hand spread and hand crimped during the revegetation phase of the project.

Stockett-Westridge

On December 21, 1993 a truck load of straw and the 627 scraper arrived on the site. The fence was removed and stored as was necessary to facilitate the reclamation. The cover soil was stripped from the lower half of the site area using the scraper. Initially, the site was set up with the bottom half used for waste material neutralization and treatment and the top half reserved for cover soil stockpiling from the bottom half of the

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

site. The pugmill and lime hopper were set up on the site on December 30, 1993.

The contractor began stripping and stockpiling waste material on December 31st. On January 5, 1994 the waste material and lime were mixed together. This was completed on February 15th. Test holes were dug above the plan area and over the top of the hill on January 19th to determine the depth to bedrock and the lime ratios. These holes were required to be dug through frost and they were over 20 feet deep. Soil samples from these areas were collected by Joel Chavez and taken to Helena for analysis.

The cover soil lime application rate was increased from 10 tons/acre to 20 tons/acre as per the lime tests conducted mid-way through the project. In addition, the coal waste extended past the original area delineated by Chen-Northern sampling. Additional equipment hours were required to move the cover soil stockpile, move the straw bale dike, and dig test pits for the determination of the actual area. The net result was that the extent of the waste area increased from the preconstruction estimates, but, the quantity of waste material decreased to 21,080 cubic yards. This is because the waste thickness was less than was originally estimated. The volume of coversoil stripped and stockpiled increased to 7,052 cubic yards due to a larger area and because the thickness was actually 9.3 inches versus the estimated 8 inches.

The entire site was regraded to blend with the existing contours. On February 2nd Schumaker Trucking and Ernest Chartier signed an agreement for Schumaker Trucking to borrow cover soil from Mr. Chartier's land. This coversoil volume increased to 3,843 cubic yards. The placement, leveling, and disking of the cover soil on the neutralized waste material was completed on March 2nd.

The increased waste area also increased the area neutralized to 5.71 acres. The straw bales were also increased to 374 for this site. The required area requiring erosion control blanket increased to 1,600 cubic yards. The increased waste area also required the relocation of 50 straw bales at the site.

A total of 240 feet of the rip-rapped ditch was repaired (160 feet less than previously estimated) and 300 feet of the non-riprapped ditch was regraded. Revegetation began on the upper 2¼ acres of the site on March 11th. The revegetation of the entire site was completed on March 15th and the fence was replaced across the top of the site. The revegetation area also increased to 5.71 acres. The straw bale dikes were also installed at this time.

After completion of reclamation, the site has been visited by AMRB. The area within the fence has a good vegetation growth. However, above the fence, the cows have trampled out all the vegetation. The landowner will be contacted about fencing and revegetating this area one more time during the fall of 1994.

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Work Area 23 Site

The fence was removed and stored as necessary to facilitate the reclamation. The excavation for the interceptor drain was begun on March 2, 1994. Three test holes were excavated to a depth of 15 feet and no bedrock was encountered. A layer of bentonite 1' to 1½' thick was found at a depth of 11 feet. After the construction inspector conferred with the project engineer, it was determined to dig to the bentonite layer with the EL300 excavator. First, a layer of 4553 non-woven fabric was placed on the lower side and bottom of the trench. A layer of claymax material was placed over this fabric which was overlain by a second layer of non-woven fabric. A layer of Mirafi 140N was then placed over this fabric and on the upper side of the trench. The limestone rock was placed within the trench and covered with a layer of Mirafi, a fabric layer and a layer of claymax. This was then backfilled with one to three feet of fill to original ground level. The trench ended up being three times as deep as predicted per Chen-Northern's investigation. The limestone rock was placed in the trench. The limestone in the trench is 208' long, 30" wide, and 6' deep. A monitoring tube was installed on the north end of the trench with a riprap drain installed.

The cover soil was stripped and stockpiled from the lime mixing area. The waste was stripped and amended in the lime mixing area on March 16th and 17th. The waste removal was 179 cubic yards over the estimated volume. The imported cover soil was hauled in and spread over the site following the placement of the amended waste material. All disturbed areas were revegetated, the erosion control blanket was installed and the straw bale dike was completed on March 22, 1994. The erosion control fabric was also increased to 2,400 square yards.

Centerville C Site

On March 18, 1994 AMRB staff were present to test the limestone trench following its excavation. The tests showed that the trench is satisfactory. A 90° elbow on the inlet pipe for the stock tank was found to be frozen and plugged. This was repaired by Schumaker Construction on a time and materials basis on March 25th. The equipment use bid item was increased to 10½ hours during the reclamation of this site. Seeding and fertilizing was completed on March 22nd and mulching was completed on March 23, 1994.

Anaconda Site

Work began on the Anaconda Site on March 24, 1994. The adit was backfilled with coal slack and material from the borrow area. The two coal slack piles were neutralized and covered with 6" of cover soil. Cover soil was then placed over the borrow area and all disturbed areas were revegetated. A straw bale dike was installed from the small coal slack pile across the borrow and backfilled adit areas. This site was completed on March 25, 1994.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Hughes E Site

Work began on the Hughes E Site on March 28, 1994. Topsoil from the two subsidence holes, the top of the adit, and the borrow area was removed and stockpiled. The two subsidence holes were backfilled. The adit was excavated 6 feet back from the adit entrance and was backfilled for a distance of 25 feet from the original entrance. An additional air shaft (4' diam. by 9' deep) was found on the site. This shaft was backfilled and revegetated. This shaft was located approximately 500 yards west of subsidence hole #2. All disturbed areas were revegetated and the site was completed on March 29, 1994. The area revegetated increased slightly from the estimated 0.10 acres to 0.12 acres.

Coal Mine Coulee Site

Work began and was completed on March 29, 1994 at this site. Topsoil from each subsidence hole and the borrow area was stripped and stockpiled. The two subsidence holes were then backfilled, the topsoil was replaced and all disturbed areas were revegetated. The barren hillside was also revegetated at that time.

Raynesford C Site

Work began on this site on March 30, 1994. The two open adits were backfilled by hand. Due to snow cover, it was impossible to complete this site. Work was terminated until the snow melted. Construction began in mid June with the coal slack piles being addressed and revegetated. The site was completed by June 16th, 1994.

Belt Culvert Site

The northern end of the type-1 ditch was excavated and reconstructed on March 30, 1994. The excavated materials were hauled to the Lewistown landfill (29 loads) between March 30 and April 4, 1994. The amount of material removed and disposed of increased 67.33 tons. The new curve was installed on the lower portion of the existing type II ditch. The channel and all disturbed areas were revegetated and the site was completed on April 4, 1994.

4.5 Quantities Used

No disputes were raised by the Contractor about the estimated quantities. The construction inspector's quantities matched the Contractor. In general, the project was very straight-forward and provided little room for confusion or Contractor questions. Exploration excavation during reclamation was required on several sites to determine the limits of that reclamation. In addition, adjustments for quantities were required since they varied from the engineer's estimates in certain instances. As such change orders were issued for a number of items as shown on the following table.

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

<u>Task No.</u>	<u>Item</u>	<u>Amount</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1	Mobilization			
	Cottonwood Creek	1	Lump Sum	1500.00
	Dolena Well	1	Lump Sum	1500.00
	Stockett-Westridge	1	Lump Sum	1500.00
	Vents	1	Lump Sum	1500.00
	Centerville "C"	1	Lump Sum	1500.00
	Work Area 23	1	Lump Sum	1500.00
	Mining Coulee	1	Lump Sum	1500.00
	Belt Culvert	1	Lump Sum	1500.00
	Anaconda	1	Lump Sum	1500.00
	Raynesford "C"	1	Lump Sum	1500.00
	Coal Mine Coulee	1	Lump Sum	1500.00
	Hughes E	1	Lump Sum	<u>1500.00</u>
	Total for Mobilization	12	\$1500.00/site	\$18,000.00
2	Provide Water			
	Cottonwood Creek	0 gallons	\$30/1000 gal	0.00
	Dolena Well	0 gallons	\$30/1000 gal	0.00
	Stockett-Westridge	0 gallons	\$30/1000 gal	0.00
	Vents	0 gallons	\$30/1000 gal	0.00
	Centerville "C"	0 gallons	\$30/1000 gal	0.00
	Work Area 23	0 gallons	\$30/1000 gal	0.00
	Mining Coulee	0 gallons	\$30/1000 gal	0.00
	Belt Culvert	0 gallons	\$30/1000 gal	0.00
	Anaconda	0 gallons	\$30/1000 gal	0.00
	Raynesford "C"	0 gallons	\$30/1000 gal	0.00
	Coal Mine Coulee	0 gallons	\$30/1000 gal	0.00
	Hughes E	0 gallons	\$30/1000 gal	<u>0.00</u>
	Total for Provide Water	0 gallons	\$30/1000 gal	\$0.00
3	Salvage and Replace Cover Soil			
	Cottonwood Creek	0.5 cy	\$350/cy	175.00
	Dolena Well	17.6 cy	Adjusted	843.20
	Stockett-Westridge	7052 cy	\$4.50/cy	31,734.00
	Work Area 23	110 cy	\$5.00/cy	550.00
	Mining Coulee	34 cy	\$10.00/cy	340.00
	Belt Culvert	6 cy	\$25.00/cy	150.00
	Anaconda	105 cy	\$10.00/cy	1,050.00
	Raynesford "C"	171 cy	\$10.00/cy	\$1,710.00
	Coal Mine Coulee	22 cy	\$20.00/cy	440.00
	Hughes E	77 cy	\$15.00/cy	<u>1,155.00</u>

NORTH CENTRAL MOUNTAIN WINTERBERRY PLANT

Locality	Altitude	Soil	Aspect	Exposure	Notes
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	Total for Salvage and Replace Cover Soil	7595.1 cy	\$5.02/cy	\$38,147.00
4	Close Mine Openings			
	Mining Coulee	5 each	\$450/each	2,250.00
	Anaconda	1 each	\$450/each	450.00
	Raynesford "C"	2 each	\$450/each	900.00
	Hughes E	2 each	\$450/each	<u>900.00</u>
	Total for Close Mine Openings	10 each	\$450/each	\$4,500.00
5	Subsidence Backfill			
	Cottonwood Creek	1 each	\$250/each	250.00
	Vents	1.2 each	\$500/each	600.00
	Mining Coulee	1 each	\$500/each	500.00
	Coal Mine Coulee	1 each	\$500/each	500.00
	Hughes E	1 each	\$700/each	<u>700.00</u>
	Total for Subsidence Backfill	5.2 each	\$490.38/each	\$2,550.00
6	Water Well Drilling and Casing			
	Dolena Well	720 feet	\$39/ft	\$28,080.00
7	Surging and Developing Well and Test Pump for 4 hours			
	Dolena Well	4 hours	\$220/hour	\$880.00
8	Surging and Developing Well and Test Pump (Add. Time to Develop)			
	Dolena Well	0	\$44/hr	\$0.00
9	Excavate Trench for Water Line From Well to House			
	Dolena Well	110 feet	\$5.50/ft	\$605.00
10	Pump, Piping, Water Tests, Hot Water Heater, Pressure Tank, New Plumbing and all Other Water Well Installation			

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	Items not Covered Under Other Work Items			
	Dolena Well	1 each	\$7000/each	\$7,000.00
11	Equipment Use-Excavate Limestone Trench Centerville "C" Site	10.5 hr	\$75/hr	\$787.50
12	Excavate Drainage Ditch Belt Culvert Site	1 each	\$200/each	\$200.00
13	Waste Removal and Disposal at Landfill Belt Culvert Site	567.33 tons	\$15/ton	\$8,509.95
14	Excavate Interception Ditch Work Area 23	400 feet	\$70 feet	\$28,000.00
15	Waste Removal and Replacement After Neutralization Work Area 23	1752 cy	\$5.00/cy	\$8,760.00
16	Waste Removal, Crushing, and Replacement after Neutralization Stockett-Westridge	21,080 cy	\$3.92/cy	\$82,633.60
17A	Ditch Repair - Repair RipRap Channel Stockett-Westridge	240 feet	\$1.50/ft	\$360.00
17 B	Ditch Repair - Regrade Drainage Channel Stockett-Westridge	300 feet	\$1.00/ft	\$300.00
18	Neutralize Coal Slack/Waste Areas			
	Stockett-Westridge	5.71 ac	\$7250/ac	41,397.50
	Vents	0.06 ac	\$9333.53/ac	560.01
	Work Area 23	0.65 ac	\$2300/ac	1,495.00
	Anaconda	0.10 ac	\$4000/ac	400.00
	Raynesford "C"	0.63 ac	\$2500/ac	1,575.00
	Total for Neutralize			

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

	Coal Slack/Waste Areas	7.15 ac	\$6,353.50/ac	\$45,427.51
19	Cover Soil Application			
	Stockett-Westridge	3843 cy	\$5.65/cy	21,712.95
	Work Area 23	525 cy	\$6.50/cy	3,412.00
	Raynesford "C"	508 cy	\$10/cy	5,080.00
	Total for Cover Soil Application	4,876 cy	\$6.19/cy	\$30,204.95
20	Provide Fencing Materials			
	All Sites	1 each	\$250/each	\$250.00
21	Fertilize, Seed, and Mulch			
	Cottonwood Creek	0.001 ac	\$70000/ac	70.00
	Dolena Well	0 ac	\$25000/ac	0.00
	Stockett-Westridge	5.71 ac	\$2000/ac	11,420.00
	Vents	0.06 ac	\$5000/ac	300.00
	Centerville "C"	1.55 ac	\$2000/ac	3,100.00
	Work Area 23	0.82 ac	\$2000/ac	1,640.00
	Mining Coulee	0.05 ac	\$2000/ac	100.00
	Belt Culvert	0.16 ac	\$2000/ac	320.00
	Anaconda	0.23 ac	\$2000/ac	460.00
	Raynesford "C"	0.85 ac	\$2000/ac	1,700.00
	Coal Mine Coulee	0.48 ac	\$2000/ac	960.00
	Hughes E	0.12 ac	\$2000/ac	<u>240.00</u>
	Total for Fertilize, Seed, and Mulch	10.03 ac	\$2017.95/ac	\$20,310.00
22	Erosion Control Mat			
	Work Area 23	2400 yd ³	\$2.10/yd ³	5,040.00
	Stockett-Westridge	1600 yd ³	\$2.10/yd ³	<u>3,360.00</u>
	Total for Erosion Control Mat	4000 yd ³	\$2.10/yd ³	\$8,400.00
23	Straw Bales for Erosion Control			
	Stockett-Westridge	374 bales	\$10/bale	3,740.00
	Work Area 23	63 bales	\$12/bale	756.00
	Anaconda	35 bales	\$12/bale	756.00
	Centerville "C"	63 bales	\$12/bale	<u>420.00</u>
	Total for Straw Bales for Erosion Control	535 bales	\$10.60/bale	\$5,672.00

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

Additional Items in the Change Orders Not Reflected in the Quantities Shown Above:

Change Order #1

Grouting - Dolena Well	1 lump sum	\$795.17/lump sum	795.17
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Deep Well Costs (Dolena)	1 lump sum	\$7196.94/lump sum	7,196.94
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Change Order #2

Lehigh Sample Hole Excavation	1	\$1717.10/lump sum	1,717.10
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Additional Test Holes for Waste Delineation Stockett-Westridge	1	\$915/lump sum	915.00
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Change Covering Soil Lime From 10 to 20 tons/acre	1	\$3636/lump sum	3,636.00
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Change Order #3

Relocate 50 Bales at Stockett-Westridge	50 bales	\$8.00/bale	400.00
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Total Contract Amount			\$354,231.42
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WORTHINGTON MOUNTAIN RECREATION RESORT

For information on the various services and facilities available at the resort, please contact the resort office.

Resort Office: 1-800-555-1234
Fax: 1-800-555-1235
E-mail: info@worthington.com

Resort Office: 1-800-555-1234
Fax: 1-800-555-1235
E-mail: info@worthington.com

Resort Office: 1-800-555-1234
Fax: 1-800-555-1235
E-mail: info@worthington.com

Resort Office: 1-800-555-1234
Fax: 1-800-555-1235
E-mail: info@worthington.com

Resort Office: 1-800-555-1234
Fax: 1-800-555-1235
E-mail: info@worthington.com

Resort Office: 1-800-555-1234
Fax: 1-800-555-1235
E-mail: info@worthington.com

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

5. PAYMENT REQUESTS

5.1 Pay Request

Four pay requests were processed for this project as addressed under Section 3.8 above. A copy of these pay requests have been included in ATTACHMENT 3.

5.2 Cost per Site

<u>Site Name</u>	<u>Disturbed Acres</u>	<u>Cost/Acre</u>	<u>Total Project Cost</u>
Cottonwood Creek	0.001	\$1,995,000.00	\$1,995.00
Dolena Well	0.01	\$4,690,031.00	\$46,900.31
Stockett-Westridge	5.71	\$35,614.54	\$203,359.05
Vents	0.06	\$49,333.53	\$2,960.01
Centerville C	1.55	\$3,746.77	\$5,807.50
Work Area 23	0.82	\$62,382.31	\$51,153.50
Mining Coulee	0.05	\$93,800.00	\$4,690.00
Belt Culvert	0.16	\$66,749.69	\$10,679.95
Anaconda	0.23	\$20,069.57	\$4,616.00
Raynesford C	0.85	\$14,664.71	\$12,465.00
Coal Mine Coulee	0.48	\$7,083.33	\$3,400.00
Hughes E	<u>0.12</u>	\$37,458.33	\$4,495.00
Project Cost	10.041		352,521.32
Lehigh (extra)			<u>\$1710.10</u>
Project Total			\$354,231.42

5.3 Total Project Cost

The original bid was \$292,384.71 and three change orders were issued for a total of \$61,846.71 bringing the total construction cost to \$354,231.42. The total engineering cost for the project was \$ 133,074.00. An analysis of the engineering costs versus construction costs is presented in ATTACHMENT 4.

North Central Wildlife Management Project

2.1. Project Objectives

2.1.1. Project Objectives

The primary objective of this project is to develop and implement a comprehensive wildlife management plan for the North Central region. This plan will focus on the conservation and sustainable use of wildlife resources, including the protection of critical habitats and the management of wildlife populations.

2.1.2. Project Objectives

Objective	Priority	Timeline	Responsible Party
Develop a comprehensive wildlife management plan	High	12 months	Project Manager
Identify and protect critical habitats	Medium	6 months	Habitat Specialist
Monitor and manage wildlife populations	Medium	12 months	Wildlife Biologist
Conduct research on wildlife behavior and ecology	Low	18 months	Research Scientist
Implement conservation programs	High	12 months	Conservation Officer
Engage the public in wildlife conservation efforts	Medium	12 months	Public Outreach Specialist
Develop educational materials	Low	6 months	Education Specialist
Establish partnerships with local organizations	Medium	12 months	Partnership Coordinator
Secure funding for the project	High	12 months	Funding Specialist
Report progress to stakeholders	Medium	12 months	Reporting Specialist

2.1.3. Project Objectives

2.1.3.1. Project Objectives

2.1.3.2. Project Objectives

2.1.4. Project Objectives

2.1.4.1. Project Objectives

2.1.4.2. Project Objectives

2.1.4.3. Project Objectives

2.1.4.4. Project Objectives

2.1.4.5. Project Objectives

2.1.4.6. Project Objectives

2.1.4.7. Project Objectives

2.1.4.8. Project Objectives

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

6. PROJECT SUMMARY

6.1 Summary of Project

The project went as scheduled with a few modifications as described in the Construction Activities section (Section 4.4) of this report. Additional items were added and final quantities were adjusted as necessary throughout the project. These changes are reflected in the change orders and are described in Section 4.5 Quantities Used.

A number of visits were made by AMRB personnel to the project during the reclamation. These visits were to check the progress of the project, to test the limestone trench following excavation at the Centerville C site, and to collect soil samples at several other sites. In each case, the AMRB personnel felt the reclamation was proceeding as per the designs.

6.2 Site Condition after Completion

The work for each site was completed per the construction plans and field modifications as shown on the as-built drawings. Each site looked good upon completion. Schumaker Excavation, the Contractor, did a very good job on this project.

6.3 Maintenance or Follow-up

These sites should require little or no maintenance work. The moisture conditions will dictate the reclamation success of the revegetation.

The Stockett-Westridge site had vegetation failure above the fence due to cattle overgrazing. This area will need to be fenced and revegetated.

6.4 Bid Package (Construction) Drawings

The bid package contained a location cover sheet and one site plan sheet for each project (12 design sheets and 1 cover sheet) covering the work at this project. These plans represent the reclamation engineering design (the plans from which the contractors bid the work). These sheets are found at the back of the bid package.

6.5 As-Built Drawings

The original Site Plan sheets were modified to reflect as-built final reclamation construction. These plans are presented in ATTACHMENT 6.

THE 1990-1991 BUDGETARY PROJECTIONS

1. Introduction

2. Summary of Results

The following table shows the projected budgetary results for the 1990-1991 fiscal year. The data is presented in millions of dollars. The first column shows the actual results for the 1989-1990 fiscal year. The second column shows the projected results for the 1990-1991 fiscal year. The third column shows the difference between the actual and projected results.

A number of factors have contributed to the projected budgetary results for the 1990-1991 fiscal year. These factors include changes in the economy, changes in government policy, and changes in the behavior of individuals and businesses.

3. The Budgetary Process

The budgetary process is a complex one, involving many different groups and individuals. The process begins with the President's budget proposal, which is then reviewed and modified by Congress.

4. The Budgetary Outlook

The budgetary outlook for the 1990-1991 fiscal year is generally positive. The economy is expected to continue to grow, and government revenue is expected to increase.

5. Conclusion

The 1990-1991 budgetary projections are based on a number of assumptions. These assumptions include a continued strong economy, continued government policy, and continued individual and business behavior.

6. Appendix

A. Glossary

B. Notes

C. References

D. Tables

E. Figures

F. Index

NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

7. COMMENTS/SUGGESTIONS

The Stockett-Westridge site vegetation above the fence was trampled out due to cattle over-grazing. This appears to be a problem that should be examined at every site prior to the design phase. If cattle are present, the entire reclamation area should possibly be fenced (reference the failure at the Terry Coal Fire due to cattle).

It is difficult for one engineering firm to grab the work of another firm and design around their field effort. The biggest problem on this project was using past engineering estimates without proper verification. Both Work Area 23 and Stockett-Westridge changed significantly during construction from the site plan because of using another engineering firm's estimates without field checking. It is always better if one firm can take a project from beginning to end.

8. PHOTOGRAPHS/SLIDES

8.1 Listing

The description of the photographs taken to document the work performed is found at the back of the final report under ATTACHMENT 6. Each picture is numbered on the front and has a generic label on the back. Following the photo descriptions are the photographs themselves. The two bound final reports contain photographs and the unbound original report contains slides.

8.2 Photo Location Maps

The location where the photos were taken and their orientation are shown on the as-built plan sheets located in ATTACHMENT 6 at the back of the report.

8.3 Photos/Slides

The photographic documentation of the project includes both prints and slides.

A sequence of photographs documenting the construction activities begins immediately following the photo location maps found in ATTACHMENT 6 at the back of the report.

THEORY OF THE EARTH

CHAPTER I

The earth is a sphere, and its surface is divided into two parts, the land and the water. The land is divided into continents and islands, and the water is divided into oceans and seas. The earth is covered with a thin layer of air, and the air is divided into different layers. The air is also divided into different parts, and the parts are called the atmosphere, the hydrosphere, and the lithosphere.

The earth is also divided into different parts, and the parts are called the atmosphere, the hydrosphere, and the lithosphere. The atmosphere is the layer of air that surrounds the earth, and the hydrosphere is the layer of water that surrounds the earth. The lithosphere is the layer of rock that surrounds the earth. The earth is also divided into different parts, and the parts are called the atmosphere, the hydrosphere, and the lithosphere.

CHAPTER II

SECTION I

The earth is a sphere, and its surface is divided into two parts, the land and the water. The land is divided into continents and islands, and the water is divided into oceans and seas. The earth is covered with a thin layer of air, and the air is divided into different layers. The air is also divided into different parts, and the parts are called the atmosphere, the hydrosphere, and the lithosphere.

SECTION II

SECTION III

SECTION IV

SECTION V

SECTION VI

SECTION VII

SECTION VIII

SECTION IX

SECTION X

SECTION XI

SECTION XII

SECTION XIII

SECTION XIV

ATTACHMENT 1

BID TABULATIONS

ATTACHMENT 1

END TABULATIONS

ATTACHMENT 4

ANALYSIS OF CONSULTANT COSTS INCURRED

ATTACHMENT 4

ANALYSIS OF CONSULTANT COSTS IN 2014

ATTACHMENT 1

BID TABULATIONS

1993 North-Central MT Coal Maintenance Project
Cascade and Judith Basin Counties, MONTANA

DSL/AMRB 93-MO6
DATE Nov. 4, 1993

BID TABULATIONS				ENGINEER'S ESTIMATE		SHUMAKER TRUCKING & EXCAVATING		BARBER EXCAVATING		SCOTT CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
1.	1	LS	Mobilization		0.00		0.00		0.00		0.00
	1	LS	Cottonwood Creek	100	100.00	1500.00	1,500.00	500.00	500.00	2500.00	2,500.00
	1	LS	Dolena Well	1000	1,000.00	1500.00	1,500.00	500.00	500.00	2500.00	2,500.00
	1	LS	Stockett-Westridge	15000	15,000.00	1500.00	1,500.00	1500.00	1,500.00	12,500.00	12,500.00
	1	LS	Vents	100	100.00	1500.00	1,500.00	500.00	500.00	2500.00	2,500.00
	1	LS	Centerville "C"	500	500.00	1500.00	1,500.00	500.00	500.00	2500.00	2,500.00
	1	LS	Work Area 23	3000	3,000.00	1500.00	1,500.00	1000.00	1,000.00	2500.00	2,500.00
	1	LS	Mining Coulee	1200	1,200.00	1500.00	1,500.00	1000.00	1,000.00	2500.00	2,500.00
	1	LS	Belt Culvert	1200	1,200.00	1500.00	1,500.00	500.00	500.00	2500.00	2,500.00
	1	LS	Anaconda	1200	1,200.00	1500.00	1,500.00	1500.00	1,500.00	2500.00	2,500.00
	1	LS	Raynesford "C"	1200	1,200.00	1500.00	1,500.00	1500.00	1,500.00	2500.00	2,500.00
	1	LS	Coal Mine Coulee	1200	1,200.00	1500.00	1,500.00	1500.00	1,500.00	2500.00	2,500.00
	1	LS	Hughes E	1200	1,200.00	1500.00	1,500.00	2000.00	2,000.00	2500.00	2,500.00
2.	30	KGAL	Provide Water	25	750.00	40.00	1,200.00	100.00	3,000.00	29.50	885.00
3.		CY	Salvage & Replace Cover Soil	1	0.00		0.00		0.00		0.00
	0.5	CY	Cottonwood Creek	100	50.00	350.00	175.00	300.00	150.00	500.00	250.00
	8	CY	Dolena Well	5	40.00	100.00	800.00	10.00	80.00	10.00	80.00
	4820	CY	Stockett-Westridge	1	4,820.00	4.50	21,690.00	2.24	10,796.80	1.51	7,278.20
	110	CY	Work Area 23	5	550.00	5.00	550.00	3.00	330.00	5.00	550.00
	34	CY	Mining Coulee	5	170.00	10.00	340.00	6.00	204.00	5.00	170.00
	6	CY	Belt Culvert	10	60.00	25.00	150.00	6.00	36.00	10.00	60.00
	105	CY	Anaconda	5	525.00	10.00	1,050.00	6.00	630.00	5.00	525.00
	171	CY	Raynesford "C"	5	855.00	10.00	1,710.00	6.00	1,026.00	10.00	1,710.00
	22	CY	Coal Mine Coulee	5	110.00	20.00	440.00	10.00	220.00	5.00	110.00
					34,830.00		46,105.00	.00	28,972.80	.00	51,618.20

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1993 North-Central Coal Maintenance Project
Cascade and Judith Basin Counties, MONTANA

DSU/AMRB 93-M06
DATE Nov. 4, 1993

BID TABULATIONS				ENGINEER'S ESTIMATE		SHUMAKER TRUCKING INC.		BARBER EXCAVATING		SCOTT CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
	77	CY	Hughes E	5	385.00	15.00	1,155.00	7.00	539.00	5.00	385.00
4.		EA	Close Mine Openings	1	0.00		0.00		0.00		0.00
	4	EA	Mining Coulee	300	1,200.00	450.00	1,800.00	250.00	1,000.00	250.00	1,000.00
	1	EA	Anaconda	600	600.00	450.00	450.00	300.00	300.00	750.00	750.00
	1	EA	Hughes E	300	300.00	450.00	450.00	300.00	300.00	500.00	500.00
	2	EA	Raynesford "C"	200	400.00	450.00	900.00	300.00	600.00	500.00	1,000.00
5.		LS	Subsidence Backfilling	1	0.00		0.00		0.00		0.00
	1	LS	Cottonwood Creek	100	100.00	250.00	250.00	450.00	450.00	500.00	500.00
	1	LS	Vents	300	300.00	500.00	500.00	500.00	500.00	500.00	500.00
	1	LS	Mining Coulee	500	500.00	500.00	500.00	600.00	600.00	850.00	850.00
	1	LS	Coal Mine Coulee	300	300.00	500.00	500.00	400.00	400.00	500.00	500.00
	1	LS	Hughes E	300	300.00	700.00	700.00	500.00	500.00	500.00	500.00
6.	300	FT	Water Well Drilling and Casing for Dolena Well	40	12,000.00	39.00	11,700.00	66.34	19,902.00	40.00	12,000.00
7.	1	LS	Surging and Developing Dolena Well and Test for 6 Hours	540	540.00	1320.00	1,320.00	600.00	600.00	2500.00	2,500.00
8.	18	Hours	Surging and Developing Dolena Well and Test Pump (Additional Time to Develop)	90	1,620.00	44.00	792.00	126.00	2,268.00	30.00	540.00
9.	50	FT	Excavate Trench for Water Line Form Well to Dolena House	20	1,000.00	5.50	275.00	10.00	500.00	6.00	300.00
10.	1	LS	Pump, Piping, Water Tests, Hot Water Heater, Pressure Tank, New Plumbing and All Other Water Well Installation Items Not Covered Under Other Work Items For The Dolena Well Site	8000	8,000.00	7000.00	7,000.00	9582.00	9,582.00	7500.00	7,500.00
					27,545.00		28,292.00		38,041.00		29,325.00

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C

C

BID TABULATIONS				ENGINEER'S ESTIMATE		SHUMAKER TRUCKING		BARBER EXCAVATING		SCOTT CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
11.	8	Hours	Equipment Use-excavate Limestone Trench At Centerville "C" Site	80	640.00	75.00	600.00	85.00	680.00	65.00	520.00
12.	1	LS	Excavate 41 Feet of Drainage Ditch At the Belt Culvert Site	500	500.00	200.00	200.00	150.00	150.00	1500.00	1,500.00
13.	500	Tons	Waste Removal and Disposal At Great Falls Landfill of Material From Belt Culvert Site	40	20,000.00	15.00	7,500.00	39.00	19,500.00	33.60	16,800.00
14.	1	LS	Excavate 200 Foot Long Interception Ditch at Work Area 23 Site	3000	3,000.00	14000.00	14,000.00	3000.00	3,000.00	2500.00	2,500.00
15.	1573	CY	Waste Removal and Replacement After Neutralization At Work Area 23 Site	1.00	1,573.00	5.00	7,865.00	3.00	4,719.00	3.00	4,719.00
16.	26000	CY	Waste Removal, Crushing, And Replacement After Neutralization At Stockett-Westridge Site	3.00	78,000.00	3.92	101,920.00	2.91	75,660.00	3.90	101,400.00
17.			Ditch Repair	1	0.00	0.00	0.00	.00	0.00	0.00	0.00
	400	FT	Repair Riprap Channel and	5.00	2,000.00	1.50	600.00	3.00	1,200.00	10.00	4,000.00
	300	FT	Regrade Drainage Channel At Stockett-Westridge Site	2.00	600.00	1.00	300.00	2.00	600.00	10.00	3,000.00
18.			Neutralize Coal Slack/Waste Areas	1	0.00	1530.00	0.00	0.00	0.00	0.00	0.00
	3.58	ACRE	Stockett-Westridge	2,500	8,950.00	7250.00	25,955.00	18400.00	65,872.00	5000.00	17,900.00
	0.06	Acre	Vents	10,000	600.00	9333.53	560.01	8335.00	500.10	750.00	45.00
	0.65	Acre	Work Area 23	2,500	1,625.00	2300.00	1,495.00	7200.00	4,680.00	750.00	487.50
	0.10	Acre	Anaconda	2,500	250.00	4000.00	400.00	7000.00	700.00	750.00	75.00
	0.63	Acre	Raynesford "C"	2,000	1,260.00	2500.00	1,575.00	3175.00	2,000.25	749.70	472.31
19.			Cover Soil Application	1	0.00		0.00		0.00		0.00
	2888	CY	Stockett-Westridge	5.00	14,440.00	5.65	16,317.20	6.00	17,328.00	10.00	28,880.00
	525	CY	Work Area 23	5.00	2,625.00	6.50	3,412.50	6.00	3,150.00	10.00	5,250.00
	508	CY	Raynesford "C"	5.00	2,540.00	10.00	5,080.00	6.00	3,048.00	10.00	5,080.00
					138,603.00	0.00	187,779.71	0.00	202,787.35	0.00	192,628.81

HARECLAIMS/PROJECT/NCMT.BID

1993 North-Central MT Coal Maintenance Project
Cascade and Judith Basin Counties, MONTANA

DSL/AMRB 93-M06
DATE July 30, 1993

BID TABULATIONS			ENGINEER'S ESTIMATE		SHUMAKER TRUCKING		BARBER EXCAVATING		SCOTT CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price					
20.	1	LS	Provide Fencing Materials (400 Linear Feet of F-4M Farm Fence)	1	1.00	250.00	250.00	300.00	750.00	750.00
21.		ACRE	Fertilize, Seed and Mulch	1	0.00	1530.00	0.00	0.00	0.00	0.00
	0.001	ACRE	Cottonwood Creek	1500	1.50	7000.00	70.00	1540.00	250.00	0.25
	0.01	ACRE	Dolena Well	1500	15.00	25000.00	250.00	1540.00	250.00	2.50
	4.71/4.54	ACRE	Stockett-Westridge	1500	7,065.00	20000.00	9,420.00	1540.00	1000.00	4,710.00
	1.55	ACRE	Centerville "C"	1500	2,325.00	2000.00	3,100.00	1540.00	1000.00	1,550.00
	0.06	ACRE	Vents	1500	90.00	5000.00	300.00	1540.00	500.00	30.00
	0.82/0.36	ACRE	Work Area 23	1500	1,230.00	2000.00	1,640.00	1540.00	250.00	205.00
	0.06	ACRE	Mining Coulee	1500	75.00	2000.00	100.00	1540.00	250.00	12.50
	0.16	ACRE	Belt Culvert	1500	240.00	2000.00	320.00	1540.00	250.00	40.00
	0.23	ACRE	Anaconda	1500	345.00	2000.00	460.00	1540.00	250.00	57.50
	0.85	ACRE	Raynesford "C"	1500	1,275.00	2000.00	1,700.00	1540.00	250.00	212.50
	0.48	ACRE	Coal Mine Coulee	1500	720.00	2000.00	960.00	1540.00	250.00	120.00
	0.10	ACRE	Hughes E	1500	150.00	2000.00	200.00	1540.00	250.00	25.00
22.			Erosion Control Mat	1	0.00	0.00	0.00	0.00	0.00	0.00
	2220	SQ YD	Work Area 23	3.00	6,660.00	2.10	4,662.00	2.00	4,440.00	6,660.00
	840	SQ YD	Stockett-Westridge	3.00	2,520.00	2.10	1,764.00	2.00	1,680.00	2,520.00
23.			Straw Bales for Erosion Control	1	0.00	0.00	0.00	0.00	0.00	0.00
	308	EA	Stockett-Westridge	10.00	3,080.00	10.00	3,080.00	5.00	1,540.00	1,540.00
	63	EA	Work Area 23	10.00	630.00	12.00	756.00	5.00	315.00	315.00
	35	EA	Centerville "C"	10.00	350.00	12.00	420.00	5.00	175.00	175.00
	63	EA	Anaconda	10.00	630.00	12.00	756.00	5.00	315.00	315.00
					27,402.50	0.00	30,208.00	0.00	22,637.34	19,240.25

TOTAL BID PRICE:

\$292,384.71

\$292,458.49

\$292,812.26

BID TABULATIONS				ENGINEER'S ESTIMATE		SHARBONO CONSTRUCTION		HALLETT RECLAMATION		DICK ANDERSON CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
1.	1	LS	Mobilization		0.00		0.00		0.00		0.00
	1	LS	Cottonwood Creek	100	100.00	100.00	100.00	15.00	15.00	5000.00	5,000.00
	1	LS	Dolena Well	1000	1,000.00	100.00	100.00	2500.00	2,500.00	5000.00	5,000.00
	1	LS	Stockert-Westridge	15000	15,000.00	21000.00	21,000.00	8500.00	8,500.00	48685.00	48,685.00
	1	LS	Vents	100	100.00	100.00	100.00	20.00	20.00	5000.00	5,000.00
	1	LS	Centerville "C"	500	500.00	100.00	100.00	130.00	130.00	20000.00	20,000.00
	1	LS	Work Area 23	3000	3,000.00	7000.00	7,000.00	1800.00	1,800.00	5000.00	5,000.00
	1	LS	Mining Coulee	1200	1,200.00	100.00	100.00	900.00	900.00	5000.00	5,000.00
	1	LS	Belt Culvert	1200	1,200.00	500.00	500.00	210.00	210.00	5000.00	5,000.00
	1	LS	Anaconda	1200	1,200.00	500.00	500.00	95.00	95.00	5000.00	5,000.00
	1	LS	Raynesford "C"	1200	1,200.00	500.00	500.00	235.00	235.00	5000.00	5,000.00
	1	LS	Coal Mine Coulee	1200	1,200.00	250.00	250.00	55.00	55.00	5000.00	5,000.00
	1	LS	Hughes E	1200	1,200.00	250.00	250.00	50.00	50.00	5000.00	5,000.00
2.	30	KGAL	Provide Water	25	750.00	40.00	1,200.00	58.30	1,749.00	575.00	17,250.00
3.		CY	Salvage & Replace Cover Soil	1	0.00		0.00		0.00		0.00
	0.5	CY	Cottonwood Creek	100	50.00	170.00	85.00	110.00	55.00	80.00	40.00
	8	CY	Dolena Well	5	40.00	8.75	70.00	14.30	114.40	20.00	160.00
	4820	CY	Stockert-Westridge	1	4,820.00	2.00	9,640.00	3.65	17,593.00	3.60	17,352.00
	110	CY	Work Area 23	5	550.00	9.80	1,078.00	8.10	891.00	13.00	1,430.00
	34	CY	Mining Coulee	5	170.00	10.00	340.00	6.75	229.50	11.50	391.00
	6	CY	Belt Culvert	10	60.00	40.00	240.00	19.05	114.30	20.00	120.00
	105	CY	Anaconda	5	525.00	8.00	840.00	5.45	572.25	13.80	1,449.00
	171	CY	Raynesford "C"	5	855.00	7.00	1,197.00	5.35	914.85	12.00	2,052.00
	22	CY	Coal Mine Coulee	5	110.00	10.00	220.00	7.80	171.60	14.00	308.00
					34,830.00		45,410.00		36,914.90	.00	159,237.00

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1993 North-Central Coal Maintenance Project
Cascade and Judith Basin Counties, MONTANA

DSL/AMRB 93-M06
DATE Nov. 4, 1993

BID TABULATIONS				ENGINEER'S ESTIMATE		SHARBONO CONSTRUCTION		HALLETT RECLAMATION		DICK ANDERSON CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
4.	77	CY	Hughes E	5	385.00	9.00	693.00	2.95	227.15	14.00	1,078.00
		EA	Close Mine Openings	1	0.00		0.00		0.00		0.00
	4	EA	Mining Coulee	300	1,200.00	190.00	760.00	285.00	1,140.00	135.00	540.00
	1	EA	Anaconda	600	600.00	283.00	283.00	285.00	285.00	690.00	690.00
	1	EA	Hughes E	300	300.00	125.00	125.00	285.00	285.00	375.00	375.00
	2	EA	Raynesford "C"	200	400.00	125.00	250.00	82.00	164.00	150.00	300.00
5.		LS	Subsidence Backfilling	1	0.00		0.00		0.00		0.00
	1	LS	Cottonwood Creek	100	100.00	444.00	444.00	220.00	220.00	312.00	312.00
	1	LS	Vents	300	300.00	470.00	470.00	255.00	255.00	300.00	300.00
	1	LS	Mining Coulee	500	500.00	963.00	963.00	855.00	855.00	1,000.00	1,000.00
	1	LS	Coal Mine Coulee	300	300.00	125.00	125.00	570.00	570.00	280.00	280.00
	1	LS	Hughes E	300	300.00	225.00	225.00	570.00	570.00	630.00	630.00
6.	300	FT	Water Well Drilling and Casing for Dolena Well	40	12,000.00	40.00	12,000.00	86.70	26,010.00	69.00	20,700.00
7.	1	LS	Surging and Developing Dolena Well and Test for 6 Hours	540	540.00	1320.00	1,320.00	1300.00	1,300.00	1035.00	1,035.00
8.	18	Hours	Surging and Developing Dolena Well and Test Pump (Additional Time to Develop)	90	1,620.00	44.00	792.00	144.50	2,601.00	115.00	2,070.00
9.	50	FT	Excavate Trench for Water Line Form Well to Dolena House	20	1,000.00	5.50	275.00	21.70	1,085.00	17.25	862.50
10.	1	LS	Pump, Piping, Water Tests, Hot Water Heater, Pressure Tank, New Plumbing and All Other Water Well Installation Items Not Covered Under Other Work Items For The Dolena Well Site	8000	8,000.00	6600.00	6,600.00	8235.00	8,235.00	6555.00	6,555.00
					27,545.00		25,325.00		43,802.15		36,727.50

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BID TABULATIONS				ENGINEER'S ESTIMATE		SHARBONO CONSTRUCTION		HALLETT RECLAMATION		DICK ANDERSON CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
11.	8	Hours	Equipment Use-excavate Limestone Trench At Centerville "C" Site	80	640.00	68.00	544.00	57.00	456.00	55.00	440.00
12.	1	LS	Excavate 41 Feet of Drainage Ditch At the Belt Culvert Site	500	500.00	2011.00	2,011.00	1135.00	1,135.00	1026.00	1,026.00
13.	500	Tons	Waste Removal and Disposal At Great Falls Landfill of Material From Belt Culvert Site	40	20,000.00	33.00	16,500.00	28.60	14,300.00	30.25	15,125.00
14.	1	LS	Excavate 200 Foot Long Interception Ditch at Work Area 23 Site	3000	3,000.00	11000.00	11,000.00	14675.00	14,675.00	23800.00	25,800.00
15.	1573	CY	Waste Removal and Replacement After Neutralization At Work Area 23 Site	1.00	1,573.00	7.00	11,011.00	2.85	4,483.05	9.20	14,471.60
16.	26000	CY	Waste Removal, Crushing, And Replacement After Neutralization At Stockett-Westridge Site	3.00	78,000.00	2.25	58,500.00	1.81	47,060.00	4.75	123,500.00
17.			Ditch Repair	1	0.00	0.00	0.00	.00	0.00	0.00	0.00
	400	FT	Repair Riprap Channel and	5.00	2,000.00	3.70	1,480.00	2.50	1,000.00	11.50	4,600.00
	300	FT	Regrade Drainage Channel At Stockett-Westridge Site	2.00	600.00	2.00	600.00	1.90	570.00	5.75	1,725.00
18.			Neutralize Coal Stack/Waste Areas	1	0.00	1530.00	0.00	0.00	0.00	0.00	0.00
	3.58	ACRE	Stockett-Westridge	2,500	8,950.00	27500.00	98,450.00	25403.00	90,942.74	88450.00	316,651.00
	0.06	Acre	Vents	10,000	600.00	8000.00	480.00	2414.00	144.84	13800.00	828.00
	0.65	Acre	Work Area 23	2,500	1,625.00	11760.00	7,644.00	12402.00	8,061.30	37869.00	24,614.85
	0.10	Acre	Anaconda	2,500	250.00	6960.00	696.00	4057.00	405.70	12000.00	1,200.00
	0.63	Acre	Raynesford "C"	2,000	1,260.00	7100.00	4,473.00	1422.00	895.86	8500.00	5,355.00
19.			Cover Soil Application	1	0.00		0.00		0.00		0.00
	2888	CY	Stockett-Westridge	5.00	14,440.00	9.00	25,992.00	20.36	58,799.68	12.00	34,656.00
	525	CY	Work Area 23	5.00	2,625.00	14.00	7,350.00	19.86	10,426.50	14.00	7,350.00
	508	CY	Raynesford "C"	5.00	2,540.00	3.75	1,905.00	5.62	2,854.96	15.00	7,620.00
					138,603.00	0.00	248,636.00	0.00	256,210.63	0.00	584,962.45

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1993 North-Central MT Coal Maintenance Project
Cascade and Judith Basin Counties, MONTANA

DSL/AMRE 93-M06
DATE July 30, 1993

BID TABULATIONS				ENGINEER'S ESTIMATE		SHARBONO CONSTRUCTION		HALLETT RECLAMATION		DICK ANDERSON CONSTRUCTION	
Item Number	Estimated Quantity	Unit	Description	Unit Price	Total Price						
20.	1	LS	Provide Fencing Materials (400 Linear Feet of F-4M Farm Fence)	1	1.00	150.00	425.00	425.00	250.00	250.00	
21.		ACRE	Fertilize, Seed and Mulch	1	0.00	0.00	0.00	0.00	0.00	0.00	
	0.001	ACRE	Cottonwood Creek	1500	1.50	200000.00	14300.00	14.30	12500.00	12.50	
	0.01	ACRE	Dolena Well	1500	15.00	17500.00	3312.00	33.12	12500.00	125.00	
	4.71/4.54	ACRE	Stockert-Westridge	1500	7,065.00	700.00	3,297.00	4,992.60	2000.00	9,420.00	
	1.55	ACRE	Centerville "C"	1500	2,325.00	1800.00	2,790.00	2,241.30	2000.00	3,100.00	
	0.06	ACRE	Vents	1500	90.00	8300.00	498.00	61.20	2084.00	125.04	
	0.82/0.36	ACRE	Work Area 23	1500	1,230.00	700.00	574.00	1,631.80	2000.00	1,640.00	
	0.05	ACRE	Mining Coulee	1500	75.00	8000.00	400.00	83.00	4000.00	200.00	
	0.16	ACRE	Belt Culvert	1500	240.00	4500.00	720.00	137.60	2084.00	333.44	
	0.23	ACRE	Anaconda	1500	345.00	3000.00	690.00	1280.00	2000.00	460.00	
	0.85	ACRE	Raynesford "C"	1500	1,275.00	1500.00	1,275.00	1,012.35	2000.00	1,700.00	
	0.48	ACRE	Coal Mine Coulee	1500	720.00	1500.00	720.00	681.60	2000.00	960.00	
	0.10	ACRE	Hughes E	1500	150.00	4500.00	450.00	152.40	3000.00	300.00	
22.			Erosion Control Mat	1	0.00	0.00	0.00	0.00	0.00	0.00	
	2220	SQ YD	Work Area 23	3.00	6,660.00	1.40	3,108.00	2.16	4,795.20	1.00	
	840	SQ YD	Stockert-Westridge	3.00	2,520.00	1.40	1,176.00	2.36	1,982.40	1.00	
23.			Straw Bales for Erosion Control	1	0.00	0.00	0.00	0.00	0.00	0.00	
	308	EA	Stockert-Westridge	10.00	3,080.00	9.00	2,772.00	12.45	3,834.60	4,004.00	
	63	EA	Work Area 23	10.00	630.00	9.00	567.00	12.95	815.85	819.00	
	35	EA	Centerville "C"	10.00	350.00	9.00	315.00	15.00	525.00	455.00	
	63	EA	Anaconda	10.00	630.00	9.00	567.00	13.00	819.00	819.00	
					27,402.50	0.00	20,444.00	0.00	24,532.72	27,782.98	

HARECLAM/MS/PROTECT/MCMT.BID

TOTAL BID PRICE:

\$339,815.00

\$361,460.40

\$808,709.93

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Item	Description	Quantity	Unit	Price	Total
1	1000	1	EA	1000.00	1000.00
2	2000	1	EA	2000.00	2000.00
3	3000	1	EA	3000.00	3000.00
4	4000	1	EA	4000.00	4000.00
5	5000	1	EA	5000.00	5000.00
6	6000	1	EA	6000.00	6000.00
7	7000	1	EA	7000.00	7000.00
8	8000	1	EA	8000.00	8000.00
9	9000	1	EA	9000.00	9000.00
10	10000	1	EA	10000.00	10000.00
11	11000	1	EA	11000.00	11000.00
12	12000	1	EA	12000.00	12000.00
13	13000	1	EA	13000.00	13000.00
14	14000	1	EA	14000.00	14000.00
15	15000	1	EA	15000.00	15000.00
16	16000	1	EA	16000.00	16000.00
17	17000	1	EA	17000.00	17000.00
18	18000	1	EA	18000.00	18000.00
19	19000	1	EA	19000.00	19000.00
20	20000	1	EA	20000.00	20000.00
21	21000	1	EA	21000.00	21000.00
22	22000	1	EA	22000.00	22000.00
23	23000	1	EA	23000.00	23000.00
24	24000	1	EA	24000.00	24000.00
25	25000	1	EA	25000.00	25000.00
26	26000	1	EA	26000.00	26000.00
27	27000	1	EA	27000.00	27000.00
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35	35000	1	EA	35000.00	35000.00
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40	40000	1	EA	40000.00	40000.00
41	41000	1	EA	41000.00	41000.00
42	42000	1	EA	42000.00	42000.00
43	43000	1	EA	43000.00	43000.00
44	44000	1	EA	44000.00	44000.00
45	45000	1	EA	45000.00	45000.00
46	46000	1	EA	46000.00	46000.00
47	47000	1	EA	47000.00	47000.00
48	48000	1	EA	48000.00	48000.00
49	49000	1	EA	49000.00	49000.00
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70	70000	1	EA	70000.00	70000.00
71	71000	1	EA	71000.00	71000.00
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73	73000	1	EA	73000.00	73000.00
74	74000	1	EA	74000.00	74000.00
75	75000	1	EA	75000.00	75000.00
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77	77000	1	EA	77000.00	77000.00
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79	79000	1	EA	79000.00	79000.00
80	80000	1	EA	80000.00	80000.00
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85	85000	1	EA	85000.00	85000.00
86	86000	1	EA	86000.00	86000.00
87	87000	1	EA	87000.00	87000.00
88	88000	1	EA	88000.00	88000.00
89	89000	1	EA	89000.00	89000.00
90	90000	1	EA	90000.00	90000.00
91	91000	1	EA	91000.00	91000.00
92	92000	1	EA	92000.00	92000.00
93	93000	1	EA	93000.00	93000.00
94	94000	1	EA	94000.00	94000.00
95	95000	1	EA	95000.00	95000.00
96	96000	1	EA	96000.00	96000.00
97	97000	1	EA	97000.00	97000.00
98	98000	1	EA	98000.00	98000.00
99	99000	1	EA	99000.00	99000.00
100	100000	1	EA	100000.00	100000.00

Item	Description	Quantity	Unit	Price	Total
101	101000	1	EA	101000.00	101000.00
102	102000	1	EA	102000.00	102000.00
103	103000	1	EA	103000.00	103000.00
104	104000	1	EA	104000.00	104000.00
105	105000	1	EA	105000.00	105000.00
106	106000	1	EA	106000.00	106000.00
107	107000	1	EA	107000.00	107000.00
108	108000	1	EA	108000.00	108000.00
109	109000	1	EA	109000.00	109000.00
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115	115000	1	EA	115000.00	115000.00
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125	125000	1	EA	125000.00	125000.00
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151	151000	1	EA	151000.00	151000.00
152	152000	1	EA	152000.00	152000.00
153	153000	1	EA	153000.00	153000.00
154	154000	1	EA	154000.00	154000.00
155	155000	1	EA	155000.00	155000.00
156	156000	1	EA	156000.00	156000.00
157	157000	1	EA	157000.00	157000.00
158	158000	1	EA	158000.00	158000.00
159	159000	1	EA	159000.00	159000.00
160	160000	1	EA	160000.00	160000.00
161	161000	1	EA	161000.00	161000.00
162	162000	1	EA	162000.00	162000.00
163	163000	1	EA	163000.00	163000.00
164	164000	1	EA	164000.00	164000.00
165	165000	1	EA	165000.00	165000.00
166	166000	1	EA	166000.00	166000.00
167	167000	1	EA	167000.00	167000.00
168	168000	1	EA	168000.00	168000.00
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181	181000	1	EA	181000.00	181000.00
182	182000	1	EA	182000.00	182000.00
183	183000	1	EA	183000.00	183000.00
184	184000	1	EA	184000.00	184000.00
185	185000	1	EA	185000.00	185000.00
186	186000	1	EA	186000.00	186000.00
187	187000	1	EA	187000.00	187000.00
188	188000	1	EA	188000.00	188000.00
189	189000	1	EA	189000.00	189000.00
190	190000	1	EA	190000.00	190000.00
191	191000	1	EA	191000.00	191000.00
192	192000	1	EA	192000.00	192000.00
193	193000	1	EA	193000.00	193000.00
194	194000	1	EA	194000.00	194000.00
195	195000	1	EA	195000.00	195000.00
196	196000	1	EA	196000.00	196000.00
197	197000	1	EA	197000.00	197000.00
198	198000	1	EA	198000.00	198000.00
199	199000	1	EA	199000.00	199000.00
200	200000	1	EA	200000.00	200000.00

Item	Description</
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ATTACHMENT 2

CHANGE ORDERS

ATTACHMENT 2

CHANGE ORDERS

CHANGE ORDER

JAN 31 1994

STATE LANDS

ORDER NO. 1

PROJECT TITLE: 1993 North-Central Montana Maintenance Project

MONT A/E or DSL-AMRB: 93-M06

CONTRACT DATE: _____

OWNER: Department of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: Shumaker Trucking and Excavating

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		MAT'LS.	LABOR	EQUIP.	MISC.	TOTAL UNIT COST	
4.	One additional mine opening found at Mining Coulee (bid price of \$450/each)					450.00	450.00
8.	One additional vent found at Vent site (bid price of \$100/vent hole)					100.00	100.00
6.	Water Well went to 720 feet or an additional 420 feet at Dolena Well site (bid price of \$39/foot)					16380.00	16380.00
7.	Water Well Surging & Developing took 1 hour to surge and 3 to develop for a total of 4 hours (bid at 6 hours or \$220/hour)					(440.00)	(440.00)
8.	Additional water well surging and develop time not required (bid at \$792)					(792.00)	(792.00)
9.	Additional 60 feet of trench from house to water well (bid at \$5.50/ft)					330.00	330.00
10.	Additional depth of well changed the pump, piping & other work items per attached list plus grouting an additional 97 feet					7196.94	7196.94
						795.17	795.17
23.	Additional 12 straw bales needed at Stockett-Westridge					120.00	120.00
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							24,140.11
OVERHEAD & PROFIT @ _____ %							INC.
GRAND TOTAL - THIS CHANGE ORDER							\$ 24,140.11

Original Contract Price

\$ 292,384.71

Current Contract Price Adjusted by Previous Change Order

\$ 292,384.71

Cost this Change Order (+ or -)

+ \$ 24,140.11

New Contract Price including this Change Order

\$ 316,524.82

The completion date as set forth in the Contract Documents shall be (unchanged, increased, decreased) by 0 calendar days.

The date for completion of all work will be 04/17/1994 plus any winter shut-down days.

Description and Justification for Change:

All additional work items by task are defined on attached backup sheet.

SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$_____ (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$_____ (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY

COGSWELL AGENCY

VIGILANT INSURANCE COMPANY

E.B. Cogswell
E.B. COGSWELL, RESIDENT AGENT

By: E.B. Cogswell
E.B. COGSWELL Seal ATTORNEY-IN-FACT

Recommended by: Spectrum Engineering
Engineer

William C. Maerl 1/26/94
Date

Accepted by: Shumaker Trucking and Excavating
Contractor

[Signature] 1/28/94
Date

Approved by: [Signature]
Owner

1-31-94
Date



CHANGE ORDER NUMBER 1
BACKUP JUSTIFICATION

1993 NORTH-CENTRAL MONTANA
MAINTENANCE PROJECT
DSL AMRB 93-M06

BID
ITEM

ADDITIONAL WORK

- 4 One additional mine opening reopened under large rock at Mining Coulee site. All "Close Mine Openings" were bid at \$450 each. This would add \$450 to this bid item.
- 5 One additional subsidence hole found at Vents site. There were 5 vents estimated with a bid price of \$500 (\$100/vent). This would add \$100 to this bid item.
- 6 Water well drilling and casing for Dolena well. Footage went from 300 feet to 720 feet. The bid price was \$39 per foot. This would add 420 feet at \$39/foot or \$16,380 to bid item number 6.
- 7 Surging and developing the well. This item required 1 hour of surging and 3 hours of development time. Only 4 of the 6 hours were required which subtracts \$440.00 from the bid price.
- 8 Additional surging and developing time. This item will not be required. This subtracts \$792.00. from the bid price.
- 9 Excavate trench for water line from well to Dolena house. The actual footage is 110 feet. This was changed to place the water well in an area to minimize landowner yard disturbance. This was bid at \$5.50 per foot for the estimated 50 feet. The additional footage will add \$330.00 (\$5.50/foot x 60 feet) to bid item 9.
10. Grouting was planned for 20 feet (page 42 of 45 in Section III). Grouting was changed to 117 feet to completely grout the hole to the top of the Madison formation. The additional labor, materials and equipment cost was \$682.55 plus the 15% add-on and 1.5% bonding cost brings the total cost to \$795.17.

Pump, piping and other work items at Dolena well site. This was bid lump sum at \$7,000. Due to the additional depth several things changed requiring additional cost. These include the following:

THE HISTORY OF THE CITY OF BOSTON

BY
JOSEPH NEALE

IN TWO VOLUMES.

VOLUME I. FROM THE FIRST SETTLEMENT TO THE YEAR 1700.

THE HISTORY OF THE CITY OF BOSTON, FROM THE FIRST SETTLEMENT TO THE YEAR 1700.

THE HISTORY OF THE CITY OF BOSTON, FROM THE FIRST SETTLEMENT TO THE YEAR 1700.

THE HISTORY OF THE CITY OF BOSTON, FROM THE FIRST SETTLEMENT TO THE YEAR 1700.

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THE HISTORY OF THE CITY OF BOSTON, FROM THE FIRST SETTLEMENT TO THE YEAR 1700.

THE HISTORY OF THE CITY OF BOSTON, FROM THE FIRST SETTLEMENT TO THE YEAR 1700.

Item	Cost	15% + 1.5% add-ons	Total
1.5 HP pump per spec goes to 5 HP pump	1284.25	211.91	1496.16
402 additional feet of 1.25" drop pipe	1331.91	219.77	1551.68
720 feet of #4/4 pump wire vs 280' of #12/4	2576.17	425.07	3001.24
Additional labor & equipment to install	301.28	49.71	350.99
Additional for heavier pitless adapter	60.43	9.97	70.40
2 inline checkvalves	35.74	5.90	41.64
Electrical service from house to well with larger wire at 110 ft.	352.94	58.24	411.18
Additional 420 feet of airline for drawdown gauge	84.26	13.90	98.16
Electrical changes in Dolena house for 5 HP pump	150.64	24.85	175.49
Subtotal			7196.94

23	An additional 12 straw bales were required at Stockett-Westridge for erosion control (12 x \$10/each).	120.00
----	--	--------

TOTAL CHANGES TO DATE BY
ITEM NUMBER

4	+ 450.00
5	+ 100.00
6	+ 16380.00
7	(440.00)
8	(792.00)
9	+ 330.00
10	+ 7196.94
	+ 795.17
23	+120.00
TOTAL	\$24,140.11

POWER OF ATTORNEY

Know all Men by these Presents, That the VIGILANT INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New York Corporation, has constituted and appointed, and does hereby constitute and appoint E. B. Cogswell, E. B. Cogswell, Jr., and Lorrin A. Darby of Great Falls, Montana-----

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise, bonds or obligations given or executed in the course of its business, and consents for the release of retained percentages and/or final estimates.

In Witness Whereof, the said VIGILANT INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Vice-President and Assistant Secretary and its corporate seal to be hereto affixed this 19th day of November 19 92

Corporate Seal



Richard D. O'Connor

Assistant Secretary

VIGILANT INSURANCE COMPANY.

By

George McClellan

George McClellan

Vice-President

STATE OF NEW JERSEY
County of Somerset

SS.

On this 19th day of November 19 92, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the VIGILANT INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the VIGILANT INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial Seal



STATE OF NEW JERSEY
County of Somerset

SS.

Acknowledged and Sworn to before me on the date above written.

Janet A. Scavone

JANET A. SCAVONE

Notary Public

Notary Public, State of New Jersey

No. 2066520

Commission Expires October 2, 1994

CERTIFICATION

I, the undersigned, Assistant Secretary of the VIGILANT INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on June 13, 1974 and most recently amended March 3, 1986 and that this By-Law is in full force and effect.

ARTICLE XV

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Secretary, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, Vice Chairman, President, any Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I further certify that said VIGILANT INSURANCE COMPANY is duly licensed to transact fidelity and surety business in the State of Montana, and is also duly licensed to become sole surety on bonds, undertakings, etc. permitted or required by the laws of the United States.

MONTANA

, and is also duly licensed

And I further certify that the foregoing Power of Attorney is now in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 28TH day of JANUARY 19 94

Cor



A. Leonard

Assistant Secretary

CHANGE ORDER

RECEIVED

MAR 01 1994

STATE LANDS

ORDER NO. 2

PROJECT TITLE: 1993 North-Central Montana Maintenance Project

MONT A/E or DSL-AMRB: 93-M06

CONTRACT DATE: December 2, 1993

OWNER: Department of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: Shumaker Trucking and Excavating

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		Mat'ls.	Labor	Equip.	Misc.	TOTAL UNIT COST	
3.	Additional 2,232 CY coversoil stripped at Stockett-Westridge due to larger area and 9.3 inches actual versus 8 inch depth estimate (bid price of \$4.50/CY)					10044.00	10044.00
3.	Additional 9.6 CY coversoil stripped at Dolena Well due to trench length increase from 50 to 110 ft (bid at \$4.5/CY)					43.20	43.20
16.	21,080 CY waste removal & replace at Stockett after neutralize (26,000 CY est.) with bid price at \$3.92/CY					(19286.40)	(19286.40)
21.	No revegetation at Dolena Well site per landowner request (bid at 0.01 acres at \$25,000/acre)					(250.00)	(250.00)
None	Equipment usage at Lehigh for digging trenches with Cat EL300 excavator for Joel Chavez and Doug Dollhopf soil samples per breakdown on reverse side					1717.10	1710.10
None	Equipment usage at Stockett-Westridge to dig sample pits to the top of the ridge to determine the additional coal waste areas per breakdown on reverse side					915.00	915.00
None	Increase lime application rate on Stockett-Westridge from 10 tons/acre to 20 tons/acre for the cover soil					3636.00	3636.00
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							(3,188.10)
OVERHEAD & PROFIT @ _____ %							INC.
GRAND TOTAL - THIS CHANGE ORDER							(\$ 3,188.10)

ok 3/1/94

Original Contract Price	\$ 292,384.71
Current Contract Price Adjusted by Previous Change Order	\$ 316,524.82
Cost this Change Order (+ or -)	- \$ 3,188.10
New Contract Price including this Change Order	\$ 313,336.72

1. The purpose of this document is to provide information on the status of the project.

2. The project is currently in the planning phase.

3. The project is currently in the planning phase.

4. The project is currently in the planning phase.

5. The project is currently in the planning phase.

6. The project is currently in the planning phase.

Project Status	
Project Name	Project Alpha
Project Manager	John Doe
Project Start Date	1/1/2024
Project End Date	12/31/2024
Project Budget	\$1,000,000
Project Risk	Low
Project Complexity	Medium
Project Scope	Medium
Project Resources	Medium
Project Timeline	Medium
Project Deliverables	Medium
Project Milestones	Medium
Project Risks	Medium
Project Issues	Medium
Project Status	Medium

7. The project is currently in the planning phase.

8. The project is currently in the planning phase.

9. The project is currently in the planning phase.

10. The project is currently in the planning phase.

The completion date as set forth in the Contract Documents shall be (unchanged, increased, decreased) by 0 calendar days.

The date for completion of all work will be 04/17/1994 plus any winter shut-down days.

Description and Justification for Change:

Bid items 3, 16 and 21 changes described on reverse side and are for quantity adjustments to existing bid items.

Lehigh: Excavator required to dig through frost and 20 foot plus depth to take coal waste samples for lime analysis. The costs for this task include:

Overweight permits from the Department of Transportation	2 trips x \$ 63.00/trip =	\$ 126.00
Standard PSC hauling rate	2 trips x \$359.50/trip =	719.00
Excavator hours	6 hours x \$110.00/hour =	660.00
Pickup mileage	156 miles x \$0.35/mile =	54.60
Labor hours to/from site, load excavator	4.5 hours x \$35.00/hour =	157.50
TOTAL		\$1717.10

Stockett-Westridge: The coal waste exceeded past the original area determined by Chen-Northern sampling. Additional equipment hours required to move cover soil stockpile, move straw bale dike, and dig test pits for determination of actual area. The costs for this task include:

Cat D8 dozer		
Time ripping through frost for test pits	1.0 hour x \$110/hour =	\$ 110.00
Time for straw bale dike removal	1.5 hours x \$110/hour =	165.00
Time for cover soil stockpile relocation	2.5 hours x \$110/hour =	275.00
Cat 436 backhoe	3.5 hours x \$ 65/hour =	227.50
John Deere 450 crawler/backhoe	2.5 hours x \$ 55/hour =	137.50
TOTAL		\$ 915.00

Stockett-Westridge: Increase cover soil lime application rate from 10 tons/acre to 20 tons/acre (per lime tests mid-way through project).

The costs for this task include:

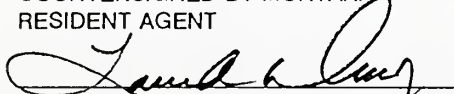
Lime	47.2 tons x \$18/ton	\$850
Delivery (\$26/ton delivered -quote from MT Limestone 2/24/94)	47.2 tons x \$26/ton	1227
Labor to apply (10 hrs x \$16.03/hr x 1.52)		244
Equipment to move, spread & apply (10 hrs x \$40/hr)	2 pieces x \$400/each	800
Profit, insurance, bonds, haul permits (16.5% total)		515
TOTAL		\$3,636

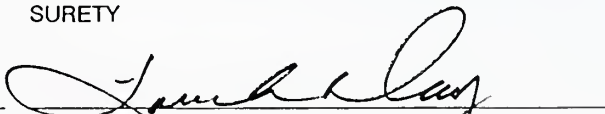
SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$_____ (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$_____ (100% of the Change Order amount).


COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY


Landon A. Dancy



By: Landon A. Dancy
Seal

Recommended by: Spectrum Engineering
Engineer


William C. Moore 2/24/94
Date

Accepted by: Shumaker Trucking and Excavating
Contractor


J. R. Dancy 2/25/94
Date

Approved by: 
Owner

3-1-94
Date

POWER OF ATTORNEY

Know all Men by these Presents, That the VIGILANT INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New York Corporation, has constituted and appointed, and does hereby constitute and appoint E. B. Cogswell, E. B. Cogswell, Jr., and Lorrin A. Darby of Great Falls, Montana-----

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise, bonds or obligations given or executed in the course of its business, and consents for the release of retained percentages and/or final estimates.

In Witness Whereof, the said VIGILANT INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Vice-President and Assistant Secretary and its corporate seal to be hereto affixed this 19th day of November 19 92

Corporate Seal



Richard D. O'Connor

Assistant Secretary

VIGILANT INSURANCE COMPANY

By

George McClellan

George McClellan

Vice-President

STATE OF NEW JERSEY
County of Somerset

ss.

On this 19th day of November 19 92, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the VIGILANT INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the VIGILANT INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Vice-President of said Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial Seal



Acknowledged and Sworn to before me
on the date above written.

Janet A. Scavone

JANET A. SCAVONE

Notary Public

Notary Public, State of New Jersey

No. 2066520

Commission Expires October 2, 1994

CERTIFICATION

STATE OF NEW JERSEY
County of Somerset

ss.

I, the undersigned, Assistant Secretary of the VIGILANT INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on June 13, 1974 and most recently amended March 3, 1986 and that this By-Law is in full force and effect.

"ARTICLE XV

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Secretary, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, Vice Chairman, President, any Vice President, any Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I further certify that said VIGILANT INSURANCE COMPANY is duly licensed to transact fidelity and surety business in the State of MONTANA, and is also duly licensed to become sole surety on bonds, undertakings, etc. permitted or required by the laws of the United States.

MONTANA

, and is also duly licensed

And I further certify that the foregoing Power of Attorney is now in full force and effect.

Given under my hand and the seal of said Company at Warren, N.J., this 25TH day of MARCH 19 94

Corp



A. Leonard

Assistant Secretary

CHANGE ORDER

RECEIVED

APR 11 1994

STATE LANDS

ORDER NO. 3

PROJECT TITLE: 1993 North-Central Montana Maintenance Project

MONT A/E or DSL-AMRB: 93-M06

CONTRACT DATE: December 2, 1993

OWNER: Department of State Lands, Abandoned Mine Reclamation Bureau

CONTRACTOR: Shumaker Trucking and Excavating

Change Orders must be accompanied by an itemized cost breakdown. You are hereby requested to comply with the following changes from the Contract Documents. (Show separate costs for materials, labor, equipment, and miscellaneous. Show percent where applicable.)

ITEM NO.	DESCRIPTION OF CHANGES - ESTIMATED QUANTITIES & UNITS	COST OF CHANGES					TOTAL COST
		Mat'ls	Labor	Equip	Misc.	TOTAL UNIT COST	
2.	No water required for dust suppression (bid at \$40/Kgal)					(1200.00)	(1200.00)
4.	One new mine opening at Hughes E (bid at \$450/opening)					450.00	450.00
11.	Equipment, labor and parts to repair stock tank at Centerville "C" of \$685 or 9 hr of equip. cost at \$75/hr + 1.5 hours to dig up drain for a total of 2.5 more than estimate of 8 hours with bid price at \$75/hours x 2.5 hours extra = \$187.50					187.50	187.50
13.	Waste removal at Belt Culvert actual volume was 567.33 tons or 67.33 tons over estimate at \$15/ton = \$1009.95					1009.95	1009.95
14.	Excavate 200 foot ditch at Work Area 23 ended up being 3 times as deep as predicted per Chen-Northern backhoe pits. Negotiated amount of \$28,000 total or \$14000 extra					14000.00	14000.00
15.	Waste removal at Work Area 23 actual volume was 1752 cubic yards or 179 cy over estimate at \$5/cy = \$895					895.00	895.00
17.	Repair nrap channel at Stockett-West. - only 240 feet needing fixing or 160 feet less at \$1.50/foot = (\$240)					(240.00)	(240.00)
18.	2.13 Acre increase in neutralized areas at Stockett @ \$7250/ac					15442.50	15442.50
19.	Additional cover soil at Stockett of 955 cy at \$5.65/cy					5395.75	5395.75
21.	Revegetation acres increased at Stockett by 1.0 acres and at Hughes E by 0.02 acres (1.02 total acres x \$2000/acre bid)					2040.00	2040.00
22.	Erosion control mat increased at Stockett by 760 yds and at Work Area 23 by 180 yd (940 yds x \$2.10/yd bid)					1974.00	1974.00
23.	Additional 54 bales at Stockett Westridge @ \$10/bale bid					540.00	540.00
None	Relocate 50 straw bales at Stockett @ \$8/each					400.00	400.00
TOTAL COST - MATERIALS, LABOR, EQUIPMENT & MISC.							40,894.70
OVERHEAD & PROFIT @ _____%							INC.
GRAND TOTAL - THIS CHANGE ORDER							\$ 40,894.70

Original Contract Price

\$ 292,384.71

Current Contract Price Adjusted by Previous Change Orders

\$ 313,336.72

Cost this Change Order (+ or -)

+ \$ 40,894.70

New Contract Price including this Change Order

\$ 354,231.42

REMARKS

DATE

TIME

CHARGE

REMARKS

CHARGE

REMARKS

DATE

TIME

NO.

CHARGE

REMARKS

DATE

TIME

NO.

CHARGE

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DATE

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REMARKS

DATE

TIME

NO.

CHARGE

REMARKS

DATE

TIME

NO.

CHARGE

REMARKS

DATE

TIME

NO.

The completion date as set forth in the Contract Documents shall be (unchanged, increased, decreased) by 0 calendar days.

The date for completion of all work will be 04/17/1994 plus winter shut-down days extending the completion date 1 month.

Description and Justification for Change:

Bid items changes described on reverse side are for quantity adjustments to existing bid items.

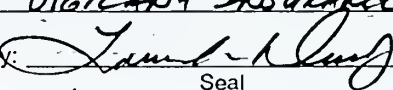
SURETY CONSENT

The Surety hereby consents to the aforementioned Contract Change Order and agrees that its bond or bonds shall apply and extend to the Contract as thereby modified or amended per this Change Order. The Principal and the Surety further agree that on or after execution of this consent, the penalty of the applicable Performance Bonds or Bonds is hereby increased by \$ 40,894.20 (100% of the Change Order amount) and the penalty of the applicable Labor and Material Bond or Bonds is hereby increased by \$ 40,894.20 (100% of the Change Order amount).

COUNTERSIGNED BY MONTANA
RESIDENT AGENT

SURETY



VIGILANT Insurance Co.
By:  ATTY-IN-FACT
Seal

Recommended by: Spectrum Engineering
Engineer

William C MacRae 4/7/94
Date

Accepted by: Shumaker Trucking and Excavating
Contractor

 4/11/94
Date

Approved by: Vir R. Anderson
Owner

4/18/94
Date

POWER OF ATTORNEY

Know all Men by these Presents, That the VIGILANT INSURANCE COMPANY, 15 Mountain View Road, Warren, New Jersey, a New York Corporation, has constituted and appointed, and does hereby constitute and appoint E. B. Cogswell, E. B. Cogswell, Jr., and Lorrin A. Darby of Great Falls, Montana-----

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise, bonds or obligations given or executed in the course of its business, and consents for the release of retained percentages and/or final estimates.

In Witness Whereof, the said VIGILANT INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Vice-President and Assistant Secretary and its corporate seal to be hereto affixed this 19th day of November 19 92

Corporate Seal



Richard D. O'Connor
Assistant Secretary

VIGILANT INSURANCE COMPANY
By

George McClellan
Vice-President

STATE OF NEW JERSEY }
County of Somerset } SS.

On this 19th day of November 19 92, before me personally came Richard D. O'Connor to me known end by me known to be Assistant Secretary of the VIGILANT INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary of the VIGILANT INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of the Company, and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; and that he is acquainted with George McClellan and knows him to be the Vice-President of the Company, and that the signature of said George McClellan subscribed to said Power of Attorney is in the genuine handwriting of said George McClellan and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial Seal



STATE OF NEW JERSEY }
County of Somerset } SS.

Acknowledged and Sworn to before me
on the date above written.

Janet A. Scavone
JANET A. SCAVONE Notary Public

CERTIFICATION

Notary Public, State of New Jersey
No. 2066520
Commission Expires October 2, 1994

I, the undersigned, Assistant Secretary of the VIGILANT INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on June 13, 1974 and most recently amended March 3, 1986 and that this By-Law is in full force and effect.

"ARTICLE XV

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Secretary, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, Vice Chairman, President, any Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I further certify that said VIGILANT INSURANCE COMPANY is duly licensed to transact fidelity and surety business in the State of MONTANA, and is also duly licensed to become sole surety on bonds, undertakings, etc. permitted or required by the laws of the United States.

And I further certify that the foregoing Power of Attorney is now in full force and effect.

G Under my hand and the seal of said Company at Warren, N.J., this 11TH day of APRIL 19 94



A. Leonard
Assistant Secretary

REPORT OF THE

COMMISSIONERS OF THE LAND OFFICE OF THE STATE OF NEW YORK
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE AND ASSEMBLY
ON JANUARY 10, 1907, RELATIVE TO THE LANDS BELONGING TO THE STATE

1907

ALBANY: PUBLISHED BY THE STATE OF NEW YORK, 1907.
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ATTACHMENT 3

PAYMENT REQUESTS

ATTACHMENT 3

PAYMENT REQUESTS

PAYMENT REQUEST NO. 1

RECEIVED

FROM 12/12/1993 TO 01/23/1994

JAN 31 1994

PROJECT TITLE: 1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT STATE LANDS

LOCATION: CASCADE & JUDITH BASIN CO. MONT A/E or DSL-AMRB: 93-M06

NAME OF CONTRACTOR: SHUMAKER TRUCKING AND EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract \$ 292,384.71

Change Order No. 1 \$ 24,140.11

Change Order No. \$

Change Order No. \$

Amount of Approved Change Order(s) \$ 24,140.11

TOTAL CONTRACT AMOUNT \$ 316,524.82

Pay Request No.	Amount of Request
<u>1</u>	\$ <u>118,323.12</u>

Total Contract Amount Completed to Date

\$ 118,323.12

Less Retainage (10 %)

\$ 11,832.31

TOTAL AMOUNT EARNED TO DATE

\$ 106,490.81

Less Previous Payments

\$ 0.00

AMOUNT DUE THIS PAYMENT

\$ 106,490.81

Less 1% Tax

\$ 1,064.91

TOTAL DUE CONTRACTOR

\$ 105,425.90

OK JL
1/31/94

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

SHUMAKER TRUCKING AND EXCAVATING

Contractor

By Eugene Shumaker

Date 1-28-94

RECOMMENDED BY:

SPECTRUM ENGINEERING

Engineer

By William C Maehl

Date 1/26/94

APPROVED BY:

DEPARTMENT OF STATE LANDS, ABANDONED

MINE RECLAMATION BUREAU

Owner

By

Date

RESP. CNTR. 3-127 77008 01

OBJ. EXP. 3/2/94

APPROVAL Doc R Anderson

DA 1-31-94

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1	Mobilization	1 LS						
	Cottonwd Creek		1500.00	0	1	1	1500.00	1500.00
	Dolena Well		1500.00	0	1	1	1500.00	1500.00
	Stockett-West		1500.00	0	1	1	1500.00	1500.00
	Vents		1500.00	0	1	1	1500.00	1500.00
	Centerville C		1500.00	0	0	0		
	Work Area 23		1500.00	0	0	0		
	Mining Coulee		1500.00	0	1	1	1500.00	1500.00
	Belt Culvert		1500.00	0	0	0		
	Anaconda		1500.00	0	0	0		
	Raynesford C		1500.00	0	0	0		
	Coal Mine Coule		1500.00	0	0	0		
	Hughes E		1500.00	0	0	0		
2.	Provide Water	30.0 Kgal	30.00	0	0.0	0.0		
3.	Salvage/Replace							
	Cover Soil							
	Cottonwd Creek	0.5 CY	350.00	0	0.5	0.5	175.00	175.00
	Dolena Well	8 CY	100.00	0				
	Stockett-West	4820 CY	4.50	0	0.4	0.4	8676.00	8676.00
	Work Area 23	110 CY	5.00	0				
	Mining Coulee	34 CY	10.00	0				
	Belt Culvert	6 CY	25.00	0				
	Anaconda	105 CY	10.00	0				
	Raynesford C	171 CY	10.00	0				
	Coal Mine Coule	22 CY	20.00	0				
	Hughes E	77 CY	15.00	0				
4.	Close Mine							
	Openings							
	Mining Coulee	4 Each	450.00	0	5	5	2,250.00	2,250.00
	Anaconda	1 Each	450.00	0	0	0	0.00	
	Hughes E	1 Each	450.00	0	0	0	0.00	
	Raynesford C	2 Each	450.00	0	0	0	0.00	
5.	Subsidence							
	Backfilling							
	Cottonwd Creek	1 LS	250.00	0	1	1	250.00	250.00
	Vents	1 LS	500.00	0	1.2	1.2	600.00	600.00
	Mining Coulee	1 LS	500.00	0	1	1	500.00	500.00
	Coal Mine Coule	1 LS	500.00	0	0	0	0.00	
	Hughes E	1 LS	700.00	0	0	0	0.00	
6.	Water Well	300 FT	39.00	0	720	720	28,080.00	28,080.00
	Drilling/Casing							
7.	Surge/Test Water	1 LS	1320.00	0	0.67	0.67	880.00	880.00
	Well for 6 Hours							
8.	Additional	18 Hours	44.00	0	0	0	0.00	
	Surge/Test Well							
9.	Excavate Water	50 Feet	5.50	0	110	110	605.00	605.00
	Line Trench							
10.	Pump, Piping,	1 LS	7000.00	0	0.1	0.1	700.00	700.00
	Etc for Well							

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
11.	Equipment Use at Centerville	8 Hours	75.00	0	0	0	0.00	
12.	Excavate 41 Ft of Ditch at Belt	1 LS	200.00	0	0	0	0.00	
13.	Waste Removal From Belt Culvert	500 Tons	15.00	0	0	0	0.00	
14.	Excavate 200 Ft Ditch at Work Area 23	1 LS	14000.00	0	0	0	0.00	
15.	Waste Remove & Replace at Work Area 23	1573 CY	5.00	0	0	0	0.00	
16.	Waste Removal & Replace After Neutralization At Stockett-West.	26000 CY	3.92	0	11,500	11,500	45,080.00	45,080.00
17.	Repair Riprap Channel at Stockett-West. and	400 Feet	1.50	0	0	0	0.00	
	Regrade Drnage Channel at Stockett-West	300 Feet	1.00	0	0	0	0.00	
18.	Neutralize Coal Slack Areas Stockett-West.	3.58 Ac	7250.00	0	1.5	1.5	10,875.00	10,875.00
	Vents	0.06 Ac	9333.53	0	0.06	0.06	560.01	560.01
	Work Area 23	0.65 Ac	2300.00	0	0	0	0.00	
	Anaconda	0.10 Ac	4000.00	0	0	0	0.00	
	Raynesford C	0.63 Ac	2500.00	0	0	0	0.00	
19.	Cover Soil Application							
	Stockett-West.	2888 CY	5.65	0	0	0	0.00	
	Work Area 23	525 CY	6.50	0	0	0	0.00	
	Raynesford C	508 CY	10.00	0	0	0	0.00	
20.	Provide Fencing Materials	1 LS	250.00	0	0	0	0.00	

Year	Month	Day	Time	Location	Activity	Remarks	Signature	Initials
1998	Jan	1	10:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	2	11:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	3	12:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	4	13:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	5	14:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	6	15:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	7	16:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	8	17:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	9	18:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	10	19:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	11	20:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	12	21:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	13	22:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	14	23:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	15	24:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	16	25:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	17	26:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	18	27:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	19	28:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	20	29:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	21	30:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	22	31:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	23	32:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	24	33:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	25	34:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	26	35:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	27	36:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	28	37:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	29	38:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	30	39:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD
1998	Jan	31	40:00	Room 101	Meeting	Meeting with Mr. Smith	John Doe	JD

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
21.	Fertilize, Seed and Mulch							
	Cottonwd Creek	0.001 Ac	70000.00	0	0	0	0.00	
	Dolena Well	0.01 Ac	25000.00	0	0	0	0.00	
	Stockett-West.	4.71 Ac	2000.00	0	0	0	0.00	
	Centerville C	1.55 Ac	2000.00	0	0	0	0.00	
	Vents	0.06 Ac	5000.00	0	0.06	0.06	300.00	300.00
	Work Area 23	0.82 Ac	2000.00	0	0	0	0.00	
	Mining Coulee	0.05 Ac	2000.00	0	0.05	0.05	100.00	100.00
	Belt Culvert	0.16 Ac	2000.00	0	0	0	0.00	
	Anaconda	0.23 Ac	2000.00	0	0	0	0.00	
	Raynesford C	0.85 Ac	2000.00	0	0	0	0.00	
	Coal Mine Coule	0.48 Ac	2000.00	0	0	0	0.00	
	Hughes E	0.10 Ac	2000.00	0	0	0	0.00	
22.	Erosion Control Mat							
	Work Area 23	2220sqYd	2.10	0	0	0	0.00	
	Stockett-West.	840 sqYd	2.10	0	0	0	0.00	
23.	Straw Bales for Erosion Control							
	Stockett-West.	308 Bales	10.00	0	320	320	3200.00	3200.00
	Work Area 23	63 Bales	12.00	0	0	0	0.00	
	Centerville C	35 Bales	12.00	0	0	0	0.00	
	Anaconda	63 Bales	12.00	0	0	0	0.00	
	CHANGE ORDER NUMBER 1							
	Grouting	1 LS	795.17	0	1	1	795.17	795.17
	Deep well cost add-ons	1 LS	7196.94	0	1	1	7196.94	7196.94
	Materials on Site (Attach Schedule)	--	--	\$	\$	--	\$0.00	\$0.00
TOTALS							\$118323.12	\$118323.12

RECEIVED

MAR 01 1994

STATE LANDS

PAYMENT REQUEST NO. 2

FROM 01/23/1994 TO 02/24/1994

PROJECT TITLE: 1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

LOCATION: CASCADE & JUDITH BASIN CO. MONT A/E or DSL-AMRB: 93-M06

NAME OF CONTRACTOR: SHUMAKER TRUCKING AND EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract \$ 292,384.71

Change Order No. 1 \$ 24,140.11

Change Order No. 2 \$ (3,188.10)

Change Order No. \$

Amount of Approved Change Order(s) \$ 20,952.01

TOTAL CONTRACT AMOUNT \$ 313,336.72

Pay Request No.	Amount of Request
1	\$ 106,490.81
2	61,305.93

Total Contract Amount Completed to Date \$ 186,440.82

Less Retainage (10 %) \$ 18,644.08

TOTAL AMOUNT EARNED TO DATE \$ 167,796.74

Less Previous Payments \$ 106,490.81

AMOUNT DUE THIS PAYMENT \$ 61,305.93

Less 1% Tax \$ 613.06

TOTAL DUE CONTRACTOR \$ 60,692.87

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

SHUMAKER TRUCKING AND EXCAVATING

Contractor

By [Signature]

Date 2/25/94

RECOMMENDED BY:

SPECTRUM ENGINEERING

Engineer

By [Signature]

Date 2/24/94

APPROVED BY:

DEPARTMENT OF STATE LANDS, ABANDONED

MINE RECLAMATION BUREAU

Owner

By

Date 3-1-94

RESP. CNTR. 3-1-94

OBJ. EXP. 2/2/94

APPROVAL [Signature]

DATE 3-1-94

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization	t LS						
	Cottonwd Creek		1500.00	t	0	t	1500.00	
	Dolena Well		1500.00	t	0	1	1500.00	
	Stockett-West		1500.00	1	0	1	1500.00	
	Vents		1500.00	1	0	1	1500.00	
	Centerville C		1500.00	0	0	0	0.00	
	Work Area 23		1500.00	0	0	0	0.00	
	Mining Coulee		1500.00	1	0	1	1500.00	
	Belt Culvert		1500.00	0	0	0	0.00	
	Anaconda		1500.00	0	0	0	0.00	
	Raynesford C		1500.00	0	0	0	0.00	
	Coal Mine Coule		1500.00	0	0	0	0.00	
	Hughes E		1500.00	0	0	0	0.00	
2.	Provide Water	30.0 Kgal	30.00	0	0.0	0.0	0.00	
3.	Salvage/Replace Cover Soil							
	Cottonwd Creek	0.5 CY	350.00	0.25	0	0.25	175.00	
	Dolena Well	8 CY	100.00	0	17.6	17.6	220.00	220.00
	Stockett-West	3650 CY	4.50	1928	3954	5882	26469.00	17793.00
	Work Area 23	110 CY	5.00	0	0	0	0.00	
	Mining Coulee	34 CY	10.00	0	34	34	340.00	340.00
	Belt Culvert	6 CY	25.00	0	0	0	0.00	
	Anaconda	105 CY	10.00	0	0	0	0.00	
	Raynesford C	171 CY	10.00	0	0	0	0.00	
	Coal Mine Coule	22 CY	20.00	0	0	0	0.00	
	Hughes E	77 CY	15.00	0	0	0	0.00	
4.	Close Mine Openings							
	Mining Coulee	4 Each	450.00	5	0	5	2,250.00	
	Anaconda	1 Each	450.00	0	0	0	0.00	
	Hughes E	1 Each	450.00	0	0	0	0.00	
	Raynesford C	2 Each	450.00	0	0	0	0.00	
5.	Subsidence Backfilling							
	Cottonwd Creek	1 LS	250.00	1	0	1	250.00	
	Vents	1 LS	500.00	1.2	0	1.2	600.00	
	Mining Coulee	1 LS	500.00	1	0	1	500.00	
	Coal Mine Coule	1 LS	500.00	0	0	0	0.00	
	Hughes E	1 LS	700.00	0	0	0	0.00	
6.	Water Well Drilling/Casing	300 FT	39.00	720	0	720	28,080.00	
7.	Surge/Test Water Well for 6 Hours	1 LS	1320.00	0.67	0	0.67	880.00	
8.	Additional Surge/Test Well	18 Hours	44.00	0	0	0	0.00	
9.	Excavate Water Line Trench	50 Feet	5.50	110	0	110	605.00	
10.	Pump, Piping, Etc for Well	1 LS	7000.00	0.1	0.85	0.95	6650.00	5950.00

Project	Year	Location	Area (ha)	Population	Area (ha)	Population	Area (ha)	Population
1	1980	1	100	1000	100	1000	100	1000
2	1981	2	200	2000	200	2000	200	2000
3	1982	3	300	3000	300	3000	300	3000
4	1983	4	400	4000	400	4000	400	4000
5	1984	5	500	5000	500	5000	500	5000
6	1985	6	600	6000	600	6000	600	6000
7	1986	7	700	7000	700	7000	700	7000
8	1987	8	800	8000	800	8000	800	8000
9	1988	9	900	9000	900	9000	900	9000
10	1989	10	1000	10000	1000	10000	1000	10000
11	1990	11	1100	11000	1100	11000	1100	11000
12	1991	12	1200	12000	1200	12000	1200	12000
13	1992	13	1300	13000	1300	13000	1300	13000
14	1993	14	1400	14000	1400	14000	1400	14000
15	1994	15	1500	15000	1500	15000	1500	15000
16	1995	16	1600	16000	1600	16000	1600	16000
17	1996	17	1700	17000	1700	17000	1700	17000
18	1997	18	1800	18000	1800	18000	1800	18000
19	1998	19	1900	19000	1900	19000	1900	19000
20	1999	20	2000	20000	2000	20000	2000	20000
21	2000	21	2100	21000	2100	21000	2100	21000
22	2001	22	2200	22000	2200	22000	2200	22000
23	2002	23	2300	23000	2300	23000	2300	23000
24	2003	24	2400	24000	2400	24000	2400	24000
25	2004	25	2500	25000	2500	25000	2500	25000
26	2005	26	2600	26000	2600	26000	2600	26000
27	2006	27	2700	27000	2700	27000	2700	27000
28	2007	28	2800	28000	2800	28000	2800	28000
29	2008	29	2900	29000	2900	29000	2900	29000
30	2009	30	3000	30000	3000	30000	3000	30000
31	2010	31	3100	31000	3100	31000	3100	31000
32	2011	32	3200	32000	3200	32000	3200	32000
33	2012	33	3300	33000	3300	33000	3300	33000
34	2013	34	3400	34000	3400	34000	3400	34000
35	2014	35	3500	35000	3500	35000	3500	35000
36	2015	36	3600	36000	3600	36000	3600	36000
37	2016	37	3700	37000	3700	37000	3700	37000
38	2017	38	3800	38000	3800	38000	3800	38000
39	2018	39	3900	39000	3900	39000	3900	39000
40	2019	40	4000	40000	4000	40000	4000	40000
41	2020	41	4100	41000	4100	41000	4100	41000
42	2021	42	4200	42000	4200	42000	4200	42000
43	2022	43	4300	43000	4300	43000	4300	43000
44	2023	44	4400	44000	4400	44000	4400	44000
45	2024	45	4500	45000	4500	45000	4500	45000
46	2025	46	4600	46000	4600	46000	4600	46000
47	2026	47	4700	47000	4700	47000	4700	47000
48	2027	48	4800	48000	4800	48000	4800	48000
49	2028	49	4900	49000	4900	49000	4900	49000
50	2029	50	5000	50000	5000	50000	5000	50000
51	2030	51	5100	51000	5100	51000	5100	51000
52	2031	52	5200	52000	5200	52000	5200	52000
53	2032	53	5300	53000	5300	53000	5300	53000
54	2033	54	5400	54000	5400	54000	5400	54000
55	2034	55	5500	55000	5500	55000	5500	55000
56	2035	56	5600	56000	5600	56000	5600	56000
57	2036	57	5700	57000	5700	57000	5700	57000
58	2037	58	5800	58000	5800	58000	5800	58000
59	2038	59	5900	59000	5900	59000	5900	59000
60	2039	60	6000	60000	6000	60000	6000	60000
61	2040	61	6100	61000	6100	61000	6100	61000
62	2041	62	6200	62000	6200	62000	6200	62000
63	2042	63	6300	63000	6300	63000	6300	63000
64	2043	64	6400	64000	6400	64000	6400	64000
65	2044	65	6500	65000	6500	65000	6500	65000
66	2045	66	6600	66000	6600	66000	6600	66000
67	2046	67	6700	67000	6700	67000	6700	67000
68	2047	68	6800	68000	6800	68000	6800	68000
69	2048	69	6900	69000	6900	69000	6900	69000
70	2049	70	7000	70000	7000	70000	7000	70000
71	2050	71	7100	71000	7100	71000	7100	71000
72	2051	72	7200	72000	7200	72000	7200	72000
73	2052	73	7300	73000	7300	73000	7300	73000
74	2053	74	7400	74000	7400	74000	7400	74000
75	2054	75	7500	75000	7500	75000	7500	75000
76	2055	76	7600	76000	7600	76000	7600	76000
77	2056	77	7700	77000	7700	77000	7700	77000
78	2057	78	7800	78000	7800	78000	7800	78000
79	2058	79	7900	79000	7900	79000	7900	79000
80	2059	80	8000	80000	8000	80000	8000	80000
81	2060	81	8100	81000	8100	81000	8100	81000
82	2061	82	8200	82000	8200	82000	8200	82000
83	2062	83	8300	83000	8300	83000	8300	83000
84	2063	84	8400	84000	8400	84000	8400	84000
85	2064	85	8500	85000	8500	85000	8500	85000
86	2065	86	8600	86000	8600	86000	8600	86000
87	2066	87	8700	87000	8700	87000	8700	87000
88	2067	88	8800	88000	8800	88000	8800	88000
89	2068	89	8900	89000	8900	89000	8900	89000
90	2069	90	9000	90000	9000	90000	9000	90000
91	2070	91	9100	91000	9100	91000	9100	91000
92	2071	92	9200	92000	9200	92000	9200	92000
93	2072	93	9300	93000	9300	93000	9300	93000
94	2073	94	9400	94000	9400	94000	9400	94000
95	2074	95	9500	95000	9500	95000	9500	95000
96	2075	96	9600	96000	9600	96000	9600	96000
97	2076	97	9700	97000	9700	97000	9700	97000
98	2077	98	9800	98000	9800	98000	9800	98000
99	2078	99	9900	99000	9900	99000	9900	99000
100	2079	100	10000	100000	10000	100000	10000	100000

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
11.	Equipment Use at Centerville	8 Hours	75.00	0	0	0	0.00	37,553.60
12.	Excavate 41 Ft of Ditch at Belt	1 LS	200.00	0	0	0	0.00	
13.	Waste Removal From Belt Culvert	500 Tons	15.00	0	0	0	0.00	
14.	Excavate 200 Ft Ditch at Work Area 23	1 LS	14000.00	0	0	0	0.00	
15.	Waste Remove & Replace at Work Area 23	1573 CY	5.00	0	0	0	0.00	
16.	Waste Removal & Replace After Neutralization At Stockett-West.	26000 CY	3.92	11,500	9,580	21,080	82,633.60	
17.	Repair Riprap Channel at Stockett-West. and	400 Feet	1.50	0	0	0	0.00	
	Regrade Drainage Channel at Stockett-West	300 Feet	1.00	0	0	0	0.00	
18.	Neutralize Coal Slack Areas							
	Stockett-West.	3.58 Ac	7250.00	1.5	0	1.5	10,875.00	
	Vents	0.06 Ac	9333.53	0.06	0	0.06	560.01	
	Work Area 23	0.65 Ac	2300.00	0	0	0	0.00	
	Anaconda	0.10 Ac	4000.00	0	0	0	0.00	
	Raynesford C	0.63 Ac	2500.00	0	0	0	0.00	
19.	Cover Soil Application							
	Stockett-West.	2888 CY	5.65	0	0	0	0.00	
	Work Area 23	525 CY	6.50	0	0	0	0.00	
	Raynesford C	508 CY	10.00	0	0	0	0.00	
20.	Provide Fencing Materials	1 LS	250.00	0	0	0	0.00	

Year	Month	Day	Time	Location	Event	Remarks	Signature	Page
1981	Jan	1	10:00	Room 101	Meeting	Initial meeting with committee members.	[Signature]	1
1981	Jan	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	2
1981	Feb	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	3
1981	Feb	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	4
1981	Mar	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	5
1981	Mar	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	6
1981	Apr	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	7
1981	Apr	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	8
1981	May	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	9
1981	May	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	10
1981	Jun	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	11
1981	Jun	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	12
1981	Jul	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	13
1981	Jul	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	14
1981	Aug	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	15
1981	Aug	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	16
1981	Sep	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	17
1981	Sep	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	18
1981	Oct	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	19
1981	Oct	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	20
1981	Nov	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	21
1981	Nov	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	22
1981	Dec	1	10:00	Room 101	Meeting	Discussion on budget and resources.	[Signature]	23
1981	Dec	15	14:00	Room 101	Meeting	Review of progress and next steps.	[Signature]	24
1981	Dec	31	10:00	Room 101	Meeting	Final meeting of the year.	[Signature]	25

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
21.	Fertilize, Seed and Mulch							
	Cottonwd Creek	0.001 Ac	70000.00	0	0	0	0.00	
	Dolena Well	0.01 Ac	25000.00	0	0	0	0.00	
	Stockett-West.	4.71 Ac	2000.00	0	0	0	0.00	
	Centerville C	1.55 Ac	2000.00	0	0	0	0.00	
	Vents	0.06 Ac	5000.00	0.06	0	0.06	300.00	
	Work Area 23	0.82 Ac	2000.00	0	0	0	0.00	
	Mining Coulee	0.05 Ac	2000.00	0.05	0	0.05	100.00	
	Belt Culvert	0.16 Ac	2000.00	0	0	0	0.00	
	Anaconda	0.23 Ac	2000.00	0	0	0	0.00	
	Raynesford C	0.85 Ac	2000.00	0	0	0	0.00	
	Coal Mine Coule	0.48 Ac	2000.00	0	0	0	0.00	
	Hughes E	0.10 Ac	2000.00	0	0	0	0.00	
22.	Erosion Control Mat							
	Work Area 23	2220sqYd	2.10	0	0	0	0.00	
	Stockett-West.	840 sqYd	2.10	0	0	0	0.00	
23.	Straw Bales for Erosion Control							
	Stockett-West.	308 Bales	10.00	320	0	320	3200.00	
	Work Area 23	63 Bales	12.00	0	0	0	0.00	
	Centerville C	35 Bales	12.00	0	0	0	0.00	
	Anaconda	63 Bales	12.00	0	0	0	0.00	
	Change Order #1							
	Grouting	1 LS	795.17	1	0	1	795.17	
	Deep well costs	1 LS	7196.94	1	0	1	7196.94	
	Change Order #2							
	Lehigh - Sample Hole Excavation	1 LS	1717.10	0	1	1	1710.10	1710.10
	Stockett-Westr. Additional Test Holes for Waste Delineation	1 LS	915.00	0	1	1	915.00	915.00
	Stockett-Westr. Change cover soil lime from 10 to 20 tons/acre	1 LS	3561.00	0	1	1	3636.00	3636.00
	Materials on Site (Attach Schedule)	--	--	\$	\$	--	\$0.00	\$0.00
TOTALS							\$186440.82	\$68117.70

RECEIVED

PAYMENT REQUEST NO. 3

APR 14 1994

FROM 02/24/1994 TO 04/07/1994

STATE LANDS

PROJECT TITLE: 1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECTLOCATION: CASCADE & JUDITH BASIN CO. MONT A/E or DSL-AMRB: 93-M06NAME OF CONTRACTOR: SHUMAKER TRUCKING AND EXCAVATINGADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract \$ 292,384.71

Change Order No. 1 \$ 24,140.11

Change Order No. 2 \$ (3,188.10)

Change Order No. 3 \$ 40,894.70

Amount of Approved Change Order(s) \$ 61,846.71

TOTAL CONTRACT AMOUNT \$ 354,231.42

Pay Request No.	Amount of Request
1	\$ 106,490.81
2	61,305.93
3	168,751.35

Total Contract Amount Completed to Date \$ 343,416.42

Less Retainage (2 %) \$ 6,868.33

TOTAL AMOUNT EARNED TO DATE \$ 336,548.09

Less Previous Payments \$ 167,796.74

AMOUNT DUE THIS PAYMENT \$ 168,751.35

Less 1% Tax \$ 1,687.51

TOTAL DUE CONTRACTOR \$ 167,063.84

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

SHUMAKER TRUCKING AND EXCAVATING

By [Signature] Contractor

Date 4/11/94

RECOMMENDED BY:

SPECTRUM ENGINEERING

By [Signature] Engineer

Date 4/7/94

APPROVED BY:

DEPARTMENT OF STATE LANDS, ABANDONED
MINE RECLAMATION BUREAU

Owner

By _____

Date _____

RESP. CNTR.	<u>30127</u>	<u>940008-01</u>
OBJ. EXP.	<u>2121</u>	
APPROVAL	<u>[Signature]</u>	
DATE	<u>4-18-94</u>	

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization	1 LS						
	Cottonwd Creek		1500.00	1	0	1	1500.00	
	Dolena Well		1500.00	1	0	1	1500.00	
	Stockett-West		1500.00	1	0	1	1500.00	
	Vents		1500.00	1	0	1	1500.00	
	Centerville C		1500.00	0	1	1	1500.00	1500.00
	Work Area 23		1500.00	0	1	1	1500.00	1500.00
	Mining Coulee		1500.00	1	0	1	1500.00	
	Belt Culvert		1500.00	0	1	1	1500.00	1500.00
	Anaconda		1500.00	0	1	1	1500.00	1500.00
	Raynesford C		1500.00	0	0.5	0.5	750.00	750.00
	Coal Mine Coule		1500.00	0	1	1	1500.00	1500.00
	Hughes E		1500.00	0	1	1	1500.00	1500.00
2.	Provide Water	30.0 Kgal	40.00	0	0.0	0.0	0.00	
3.	Salvage/Replace							
	Cover Soil							
	Cottonwd Creek	0.5 CY	350.00	0.5	0	0.5	175.00	
	Dolena Well	8 CY	100.00	2.2	15.4	17.6	843.20	623.20
	Stockett-West	4820 CY	4.50	5882	1170	7052	31734.00	5265.00
	Work Area 23	110 CY	5.00	0	110	110	550.00	550.00
	Mining Coulee	34 CY	10.00	34	0	34	340.00	
	Belt Culvert	6 CY	25.00	0	6	6	150.00	150.00
	Anaconda	105 CY	10.00	0	105	105	1050.00	1050.00
	Raynesford C	171 CY	10.00	0	0	0	0.00	
	Coal Mine Coule	22 CY	20.00	0	22	22	440.00	440.00
	Hughes E	77 CY	15.00	0	77	77	1155.00	1155.00
4.	Close Mine							
	Openings							
	Mining Coulee	4 Each	450.00	5	0	5	2,250.00	
	Anaconda	1 Each	450.00	0	1	1	450.00	450.00
	Hughes E	1 Each	450.00	0	2	2	900.00	900.00
	Raynesford C	2 Each	450.00	0	2	2	900.00	900.00
5.	Subsidence							
	Backfilling							
	Cottonwd Creek	1 LS	250.00	1	0	1	250.00	
	Vents	1 LS	500.00	1.2	0	1.2	600.00	
	Mining Coulee	1 LS	500.00	1	0	1	500.00	
	Coal Mine Coule	1 LS	500.00	0	1	1	500.00	500.00
	Hughes E	1 LS	700.00	0	1	1	700.00	700.00
6.	Water Well	300 FT	39.00	720	0	720	28,080.00	
	Drilling/Casing							
7.	Surge/Test Water	1 LS	1320.00	0.67	0	0.67	880.00	
	Well for 6 Hours							
8.	Additional	18 Hours	44.00	0	0	0	0.00	
	Surge/Test Well							
9.	Excavate Water	50 Feet	5.50	110	0	110	605.00	
	Line Trench							
10.	Pump; Piping; Etc for Well	1 LS	7000.00	0.95	0.05	1	7000.00	350.00

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
11.	Equipment Use at Centerville	8 Hours	75.00	0	10.5	10.5	787.50	787.50
12.	Excavate 41 Ft of Ditch at Belt	1 LS	200.00	0	1	1	200.00	200.00
13.	Waste Removal From Belt Culvert	500 Tons	15.00	0	567.33	567.33	8509.95	8509.95
14.	Excavate 200 Ft Ditch at Work Area 23	1 LS	14000.00	0	2	2	28000.00	28000.00
15.	Waste Remove & Replace at Work Area 23	1573 CY	5.00	0	1752	1752	8760.00	8760.00
16.	Waste Removal & Replace After Neutralization At Stockett-West.	26000 CY	3.92	21,090	0	21,090	82,633.60	
17.	Repair Riprap Channel at Stockett-West. and	400 Feet	1.50	0	240	240	360.00	360.00
	Regrade Drainage Channel at Stockett-West	300 Feet	1.00	0	300	300	300.00	300.00
18.	Neutralize Coal Slack Areas							
	Stockett-West.	3.58 Ac	7250.00	1.5	4.21	5.71	41,397.50	30522.50
	Vents	0.06 Ac	9333.53	0.06	0	0.06	560.01	
	Work Area 23	0.65 Ac	2300.00	0	0.65	0.65	1495.00	1495.00
	Anaconda	0.10 Ac	4000.00	0	0.10	0.10	400.00	400.00
	Raynesford C	0.63 Ac	2500.00	0	0	0	0.00	
19.	Cover Soil Application							
	Stockett-West.	2888 CY	5.65	0	3843	3843	21712.95	21712.95
	Work Area 23	525 CY	6.50	0	525	525	3412.50	3412.50
	Raynesford C	508 CY	10.00	0	0	0	0.00	
20.	Provide Fencing Materials	1 LS	250.00	0	1	1	250.00	250.00

Year	Month	Day	Time	Location	Activity	Remarks	Signature
1998	Jan	1	10:00	Room 101	Meeting	Initial meeting with staff	[Signature]
1998	Jan	5	14:30	Room 101	Meeting	Meeting with Mr. Smith	[Signature]
1998	Jan	12	09:00	Room 101	Meeting	Meeting with Mrs. Jones	[Signature]
1998	Jan	15	16:00	Room 101	Meeting	Meeting with Mr. Brown	[Signature]
1998	Jan	22	11:00	Room 101	Meeting	Meeting with Mr. Green	[Signature]
1998	Jan	29	13:00	Room 101	Meeting	Meeting with Mr. White	[Signature]
1998	Feb	5	10:00	Room 101	Meeting	Meeting with Mr. Black	[Signature]
1998	Feb	12	14:30	Room 101	Meeting	Meeting with Mr. Grey	[Signature]
1998	Feb	19	09:00	Room 101	Meeting	Meeting with Mr. Gold	[Signature]
1998	Feb	26	16:00	Room 101	Meeting	Meeting with Mr. Silver	[Signature]
1998	Mar	5	11:00	Room 101	Meeting	Meeting with Mr. Copper	[Signature]
1998	Mar	12	13:00	Room 101	Meeting	Meeting with Mr. Iron	[Signature]
1998	Mar	19	10:00	Room 101	Meeting	Meeting with Mr. Steel	[Signature]
1998	Mar	26	14:30	Room 101	Meeting	Meeting with Mr. Lead	[Signature]
1998	Apr	2	09:00	Room 101	Meeting	Meeting with Mr. Zinc	[Signature]
1998	Apr	9	16:00	Room 101	Meeting	Meeting with Mr. Nickel	[Signature]
1998	Apr	16	11:00	Room 101	Meeting	Meeting with Mr. Cobalt	[Signature]
1998	Apr	23	13:00	Room 101	Meeting	Meeting with Mr. Manganese	[Signature]
1998	Apr	30	10:00	Room 101	Meeting	Meeting with Mr. Magnesium	[Signature]
1998	May	7	14:30	Room 101	Meeting	Meeting with Mr. Calcium	[Signature]
1998	May	14	09:00	Room 101	Meeting	Meeting with Mr. Strontium	[Signature]
1998	May	21	16:00	Room 101	Meeting	Meeting with Mr. Barium	[Signature]
1998	May	28	11:00	Room 101	Meeting	Meeting with Mr. Radium	[Signature]
1998	Jun	4	13:00	Room 101	Meeting	Meeting with Mr. Polonium	[Signature]
1998	Jun	11	10:00	Room 101	Meeting	Meeting with Mr. Astatine	[Signature]
1998	Jun	18	14:30	Room 101	Meeting	Meeting with Mr. Tellurium	[Signature]
1998	Jun	25	09:00	Room 101	Meeting	Meeting with Mr. Selenium	[Signature]
1998	Jun	2	16:00	Room 101	Meeting	Meeting with Mr. Arsenic	[Signature]
1998	Jun	9	11:00	Room 101	Meeting	Meeting with Mr. Antimony	[Signature]
1998	Jun	16	13:00	Room 101	Meeting	Meeting with Mr. Bismuth	[Signature]
1998	Jun	23	10:00	Room 101	Meeting	Meeting with Mr. Molybdenum	[Signature]
1998	Jun	30	14:30	Room 101	Meeting	Meeting with Mr. Niobium	[Signature]
1998	Jul	7	09:00	Room 101	Meeting	Meeting with Mr. Zirconium	[Signature]
1998	Jul	14	16:00	Room 101	Meeting	Meeting with Mr. Hafnium	[Signature]
1998	Jul	21	11:00	Room 101	Meeting	Meeting with Mr. Tantalum	[Signature]
1998	Jul	28	13:00	Room 101	Meeting	Meeting with Mr. Tungsten	[Signature]
1998	Aug	4	10:00	Room 101	Meeting	Meeting with Mr. Rhenium	[Signature]
1998	Aug	11	14:30	Room 101	Meeting	Meeting with Mr. Osmium	[Signature]
1998	Aug	18	09:00	Room 101	Meeting	Meeting with Mr. Iridium	[Signature]
1998	Aug	25	16:00	Room 101	Meeting	Meeting with Mr. Platinum	[Signature]
1998	Aug	31	11:00	Room 101	Meeting	Meeting with Mr. Gold	[Signature]

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
21.	Fertilize, Seed and Mulch							
	Cottonwd Creek	0.001 Ac	70000.00	0	.001	0.001	70.00	70.00
	Dolena Well	0.01 Ac	25000.00	0	0	0	0.00	
	Stockett-West.	4.71 Ac	2000.00	0	5.71	5.71	11420.00	11420.00
	Centerville C	1.55 Ac	2000.00	0	1.55	1.55	3100.00	3100.00
	Vents	0.06 Ac	5000.00	0.06	0	0.06	300.00	
	Work Area 23	0.82 Ac	2000.00	0	0.82	0.82	1640.00	1640.00
	Mining Coulee	0.05 Ac	2000.00	0.05	0	0.05	100.00	
	Belt Culvert	0.16 Ac	2000.00	0	0.16	0.16	320.00	320.00
	Anaconda	0.23 Ac	2000.00	0	0.23	0.23	460.00	460.00
	Raynesford C	0.85 Ac	2000.00	0	0	0	0.00	
	Coal Mine Coule	0.48 Ac	2000.00	0	0.48	0.48	960.00	960.00
	Hughes E	0.10 Ac	2000.00	0	0.12	0.12	240.00	240.00
22.	Erosion Control Mat							
	Work Area 23	2220sqYd	2.10	0	2400	2400	5040.00	5040.00
	Stockett-West.	840 sqYd	2.10	0	1600	1600	3360.00	3360.00
23.	Straw Bales for Erosion Control							
	Stockett-West.	308 Bales	10.00	320	54	374	3740.00	540.00
	Work Area 23	63 Bales	12.00	0	63	63	756.00	756.00
	Centerville C	35 Bales	12.00	0	35	35	420.00	420.00
	Anaconda	63 Bales	12.00	0	63	63	756.00	756.00
	Change Order #1							
	Grouting	1 LS	795.17	1	0	1	795.17	
	Deep well costs	1 LS	7196.94	1	0	1	7196.94	
	Change Order #2							
	Lehigh - Sample Hole Excavation	1 LS	1717.10	1	0	1	1710.10	
	Stockett-Westr. Additional Test Holes for Waste Delineation	1 LS	915.00	1	0	1	915.00	
	Stockett-Westr. Change cover soil lime from 10 to 20 tons/acre	1 LS	3561.00	1	0	1	3636.00	
	Change Order #3							
	Relocate 50 bales at Stockett Westridge	50 Bales	8.00	0	50	50	400.00	400.00
	Materials on Site (Attach Schedule)	-	-	\$	\$	-	\$0.00	\$0.00
TOTALS							\$343416.42	\$156975.60

Year	Month	Day	Event	Location	Time	Duration	Remarks	Page
1950	Jan	1	1
1950	Jan	2	2
1950	Jan	3	3
1950	Jan	4	4
1950	Jan	5	5
1950	Jan	6	6
1950	Jan	7	7
1950	Jan	8	8
1950	Jan	9	9
1950	Jan	10	10
1950	Jan	11	11
1950	Jan	12	12
1950	Jan	13	13
1950	Jan	14	14
1950	Jan	15	15
1950	Jan	16	16
1950	Jan	17	17
1950	Jan	18	18
1950	Jan	19	19
1950	Jan	20	20
1950	Jan	21	21
1950	Jan	22	22
1950	Jan	23	23
1950	Jan	24	24
1950	Jan	25	25
1950	Jan	26	26
1950	Jan	27	27
1950	Jan	28	28
1950	Jan	29	29
1950	Jan	30	30
1950	Jan	31	31
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1950	Feb	2	33
1950	Feb	3	34
1950	Feb	4	35
1950	Feb	5	36
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1950	Feb	9	40
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1950	Feb	11	42
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1950	Feb	27	58
1950	Feb	28	59
1950	Feb	29	60
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1950	Mar	2	62
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1950	Mar	6	66
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1950	Mar	8	68
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1950	Mar	10	70
1950	Mar	11	71
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1950	Mar	29	89
1950	Mar	30	90
1950	Mar	31	91
1950	Apr	1	92
1950	Apr	2	93
1950	Apr	3	94
1950	Apr	4	95
1950	Apr	5	96
1950	Apr	6	97
1950	Apr	7	98
1950	Apr	8	99
1950	Apr	9	100

PAYMENT REQUEST NO. 4 - FINAL

FROM 04/07/1994 TO 06/18/1994

PROJECT TITLE: 1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

LOCATION: CASCADE & JUDITH BASIN CO. MONT A/E or DSL-AMRB: 93-M06

NAME OF CONTRACTOR: SHUMAKER TRUCKING AND EXCAVATING

ADDRESS: P.O. BOX 1442, GREAT FALLS, MT 59403

SUMMARY OF PROJECT STATUS

Amount of Original Contract \$ 292,384.71
Change Order No. 1 \$ 24,140.11
Change Order No. 2 \$ (3,188.10)
Change Order No. 3 \$ 40,894.70
Amount of Approved Change Order(s) \$ 61,846.71
TOTAL CONTRACT AMOUNT \$ 354,231.42

Pay Request No.	Amount of Request
1	\$ 106,490.81
2	61,305.93
3	168,751.35
4	17,683.33

Total Contract Amount Completed to Date \$ 354,231.42
Less Retainage (0 %) \$ 0.00
TOTAL AMOUNT EARNED TO DATE \$ 354,231.42
Less Previous Payments \$ 336,548.09
AMOUNT DUE THIS PAYMENT \$ 17,683.33
Less 1% Tax \$ 176.83
TOTAL DUE CONTRACTOR \$ 17,506.50

ok J Any
7/6/94

I certify that this claim is correct and just in all respects and that payment or credit has not been received.

SHUMAKER TRUCKING AND EXCAVATING

Contractor

By [Signature]

Date 6/30/94

RECOMMENDED BY:

SPECTRUM ENGINEERING

Engineer

By [Signature]

Date 6/25/94

APPROVED BY:

DEPARTMENT OF STATE LANDS, ABANDONED
MINE RECLAMATION BUREAU

Owner

By _____

Date _____

RESP. CNTR. 30127

OBJ. EXP. 2121

APPROVAL [Signature]

DATE 7-6-94

Rev. 3/91

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
1.	Mobilization	1 LS						
	Cottonwd Creek		1500.00	1	0	1	1500.00	
	Dolena Well		1500.00	1	0	1	1500.00	
	Stockett-West		1500.00	1	0	1	1500.00	
	Vents		1500.00	1	0	1	1500.00	
	Centerville C		1500.00	1	0	1	1500.00	
	Work Area 23		1500.00	1	0	1	1500.00	
	Mining Coulee		1500.00	1	0	1	1500.00	
	Belt Culvert		1500.00	1	0	1	1500.00	
	Anaconda		1500.00	1	0	1	1500.00	
	Raynesford C		1500.00	0.5	0.5	0.5	1500.00	750.00
	Coal Mine Coule		1500.00	1	0	1	1500.00	
	Hughes E		1500.00	1	0	1	1500.00	
2.	Provide Water	30.0 Kgal	40.00	0	0	0	0.00	
3.	Saivage/Replace Cover Soil							
	Cottonwd Creek	0.5 CY	350.00	0.5	0	0.5	175.00	
	Dolena Well	8 CY	100.00	17.6	0	17.6	843.20	
	Stockett-West	4820 CY	4.50	7052	0	7052	31734.00	
	Work Area 23	110 CY	5.00	110	0	110	550.00	
	Mining Coulee	34 CY	10.00	34	0	34	340.00	
	Belt Culvert	6 CY	25.00	6	0	6	150.00	
	Anaconda	105 CY	10.00	105	0	105	1050.00	
	Raynesford C	171 CY	10.00	0	171	171	1710.00	1710.00
	Coal Mine Coule	22 CY	20.00	22	0	22	440.00	
	Hughes E	77 CY	15.00	77	0	77	1155.00	
4.	Close Mine Openings							
	Mining Coulee	4 Each	450.00	5	0	5	2,250.00	
	Anaconda	1 Each	450.00	1	0	1	450.00	
	Hughes E	1 Each	450.00	2	0	2	900.00	
	Raynesford C	2 Each	450.00	2	0	2	900.00	
5.	Subsidence Backfilling							
	Cottonwd Creek	1 LS	250.00	1	0	1	250.00	
	Vents	1 LS	500.00	1.2	0	1.2	600.00	
	Mining Coulee	1 LS	500.00	1	0	1	500.00	
	Coal Mine Coule	1 LS	500.00	1	0	1	500.00	
	Hughes E	1 LS	700.00	1	0	1	700.00	
6.	Water Well Drilling/Casing	300 FT	39.00	720	0	720	28,080.00	
7.	Surge/Test Water Well for 6 Hours	1 LS	1320.00	0.67	0	0.67	880.00	
8.	Additional Surge/Test Well	18 Hours	44.00	0	0	0	0.00	
9.	Excavate Water Line Trench	50 Feet	5.50	110	0	110	605.00	
10.	Pump, Piping, Etc for Well	1 LS	7000.00	1	0	1	7000.00	

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
11.	Equipment Use at Centerville	8 Hours	75.00	10.5	0	10.5	787.50	1575.00
12.	Excavate 41 Ft of Ditch at Belt	1 LS	200.00	1	0	1	200.00	
13.	Waste Removal From Belt Culvert	500 Tons	15.00	567.33	0	567.33	8509.95	
14.	Excavate 200 Ft Ditch at Work Area 23	1 LS	14000.00	2	0	2	28000.00	
15.	Waste Remove & Replace at Work Area 23	1573 CY	5.00	1752	0	1752	8760.00	
16.	Waste Removal & Replace After Neutralization At Stockett-West.	26000 CY	3.92	21,080	0	21,080	82,633.60	
17.	Repair Riprap Channel at Stockett-West. and	400 Feet	1.50	240	0	240	360.00	
	Regrade Drainage Channel at Stockett-West	300 Feet	1.00	300	0	300	300.00	
18.	Neutralize Coal Slack Areas Stockett-West. Vents	3.58 Ac	7250.00	5.71	0	5.71	41,397.50	
	Work Area 23 Anaconda	0.06 Ac	9333.53	0.06	0	0.06	560.01	
	Raynesford C	0.65 Ac	2300.00	0.65	0	0.65	1495.00	5080.00
		0.10 Ac	4000.00	0.10	0	0.10	400.00	
		0.63 Ac	2500.00	0	0.63	0.63	1575.00	
19.	Cover Soil Application Stockett-West.	2888 CY	5.65	3843	0	3843	21712.95	
	Work Area 23 Raynesford C	525 CY	6.50	525	0	525	3412.50	
		508 CY	10.00	0	508	508	5080.00	
20.	Provide Fencing Materials	1 LS	250.00	1	0	1	250.00	

Item No.	Description	Contract Quantity	Contract Unit Price	Previous Quantity Requested	Current Quantity Completed	Total Quantity Completed to Date	Total Contract Amount Completed to Date	Amount Due this Payment
21.	Fertilize, Seed and Mulch							
	Cottonwd Creek	0.001 Ac	70000.00	0.001	0	0.001	70.00	
	Dolena Well	0.01 Ac	25000.00	0	0	0	0.00	
	Stockett-West.	4.71 Ac	2000.00	5.71	0	5.71	11420.00	
	Centerville C	1.55 Ac	2000.00	1.55	0	1.55	3100.00	
	Vents	0.06 Ac	5000.00	0.06	0	0.06	300.00	
	Work Area 23	0.82 Ac	2000.00	0.82	0	0.82	1640.00	
	Mining Coulee	0.05 Ac	2000.00	0.05	0	0.05	100.00	
	Belt Culvert	0.16 Ac	2000.00	0.16	0	0.16	320.00	
	Anaconda	0.23 Ac	2000.00	0.23	0	0.23	460.00	
	Raynesford C	0.85 Ac	2000.00	0	0.85	0.85	1700.00	1700.00
	Coal Mine Coule	0.48 Ac	2000.00	0.48	0	0.48	960.00	
	Hughes E	0.10 Ac	2000.00	0.12	0	0.12	240.00	
22.	Erosion Control Mat							
	Work Area 23	2220sqYd	2.10	2400	0	2400	5040.00	
	Stockett-West.	840 sqYd	2.10	1600	0	1600	3360.00	
23.	Straw Bales for Erosion Control							
	Stockett-West.	308 Bales	10.00	374	0	374	3740.00	
	Work Area 23	63 Bales	12.00	63	0	63	756.00	
	Centerville C	35 Bales	12.00	35	0	35	420.00	
	Anaconda	63 Bales	12.00	63	0	63	756.00	
	Change Order #1							
	Grouting	1 LS	795.17	1	0	1	795.17	
	Deep well costs	1 LS	7196.94	1	0	1	7196.94	
	Change Order #2							
	Lehigh - Sample Hole Excavation	1 LS	1717.10	1	0	1	1710.10	
	Stockett-Westr. Additional Test Holes for Waste Delineation	1 LS	915.00	1	0	1	915.00	
	Stockett-Westr. Change cover soil lime from 10 to 20 tons/acre	1 LS	3561.00	1	0	1	3636.00	
	Change Order #3							
	Relocate 50 bales at Stockett Westridge	50 Bales	8.00	50	0	50	400.00	
	Materials on Site (Attach Schedule)	--	--	\$	\$	--	\$0.00	\$0.00
TOTALS							\$354231.42	\$10815.00

ATTACHMENT 4

ANALYSIS OF CONSULTANT COSTS INCURRED

ANALYSIS OF CONSULTANT COSTS INCURRED

ATTACHMENT A

Item	Contract Number	Contract Title	Contract Value	Contract Status	Contract Start Date	Contract End Date	Contract Duration
1	100-100000	100-100000	100000	100000	100000	100000	100000
2	100-100000	100-100000	100000	100000	100000	100000	100000
3	100-100000	100-100000	100000	100000	100000	100000	100000
4	100-100000	100-100000	100000	100000	100000	100000	100000
5	100-100000	100-100000	100000	100000	100000	100000	100000
6	100-100000	100-100000	100000	100000	100000	100000	100000
7	100-100000	100-100000	100000	100000	100000	100000	100000
8	100-100000	100-100000	100000	100000	100000	100000	100000
9	100-100000	100-100000	100000	100000	100000	100000	100000
10	100-100000	100-100000	100000	100000	100000	100000	100000

ANALYSIS OF CONSULTANT COSTS INCURRED
FOR THE MONTANA DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU

AMR PROJECT NUMBER: DSL-AMRB 93-M06
1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

DATE OF PREPARATION: OCTOBER 7, 1994

ENGINEERING SERVICE	AMOUNT
DESIGN ENGINEERING:	\$ 71,559.72
CONSTRUCTION ENGINEERING AND PROJECT ADMINISTRATION COST:	\$ 61,514.28
TOTAL PROJECT ENGINEERING COST:	<u>\$ 133,074.00</u>
CONSTRUCTION COST:	<u>\$ 354,231.42</u>

PERCENTAGE ENGINEERING FEES TO CONSTRUCTION COST:

DESIGN ENGINEERING/CONSTRUCTION COST	20.20%
CONSTRUCTION ENGINEERING/CONSTRUCTION COST	17.37%
TOTAL PROJECT ENGINEERING COST/CONSTRUCTION COST	37.57%

REMARKS: Services provided included landowner contact, public meeting attendance, surveying, basic engineering and reclamation design, bid document preparation, pre-bid and pre-construction meetings, construction staking, contract administration, quantity accounting, full time construction/reclamation inspection and final report preparation and project close-out.

ATTACHMENT 5

WELL LOG FOR DOLENA WELL

WELL DRILLER COPY

DNRC

ATTACHMENT 6

AS-BUILT DRAWINGS

AND

PHOTO LOCATIONS

ATTACHMENT 6

AS-BUILT DRAWINGS

AND

PHOTO LOCATIONS

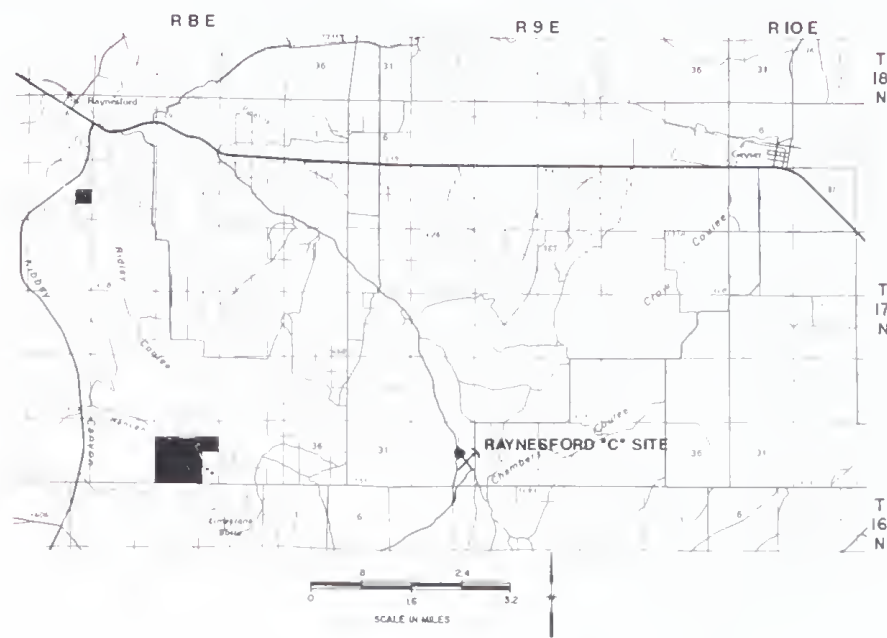
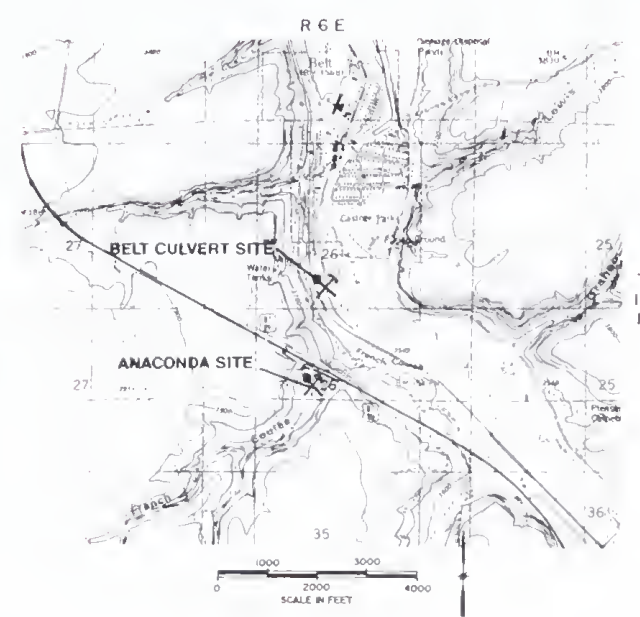
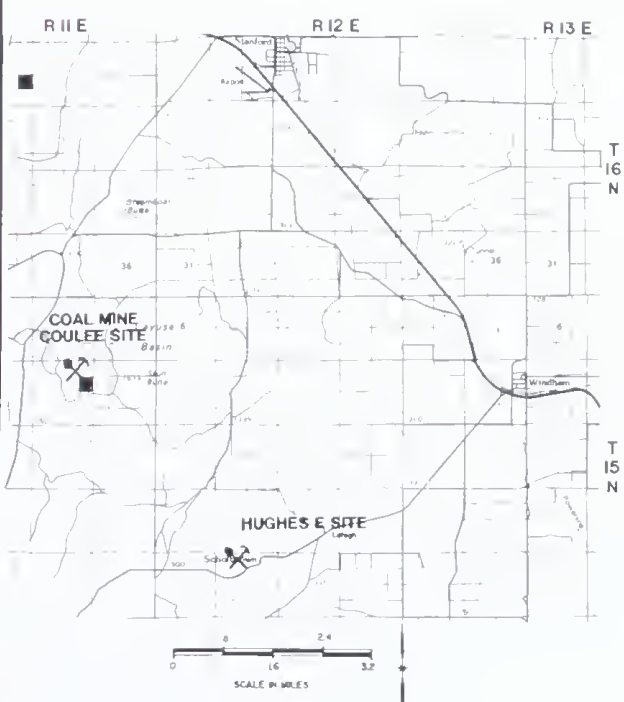
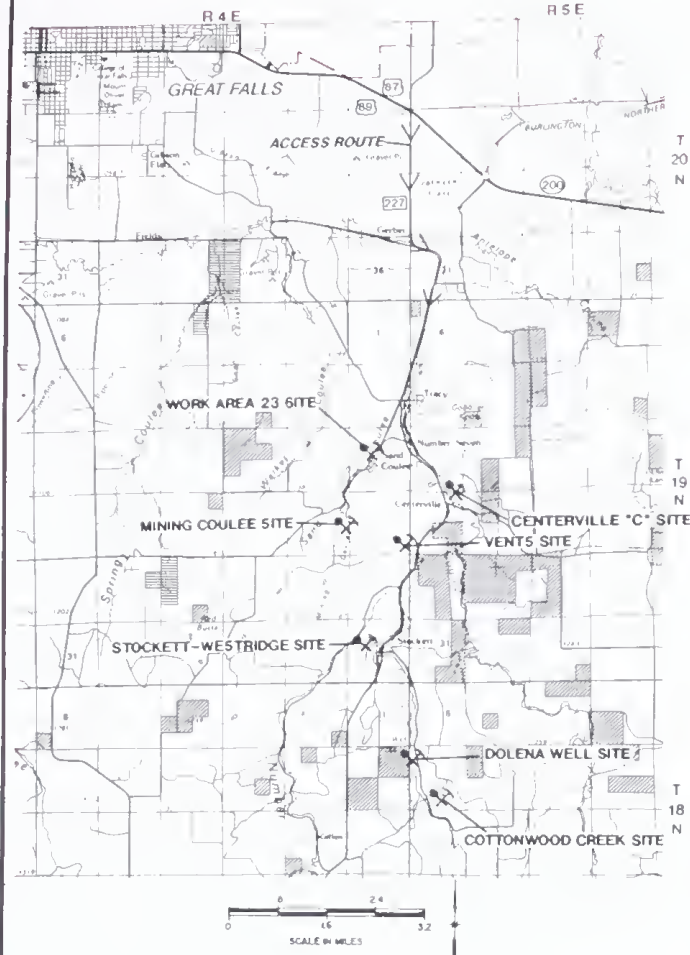
1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

MT DSL-AMRB 93-M06
LOCATED IN
CASCADE AND JUDITH BASIN COUNTIES, MONTANA

PREPARED FOR:
MONTANA DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU



STATE LOCATION MAP



BEST MANAGEMENT PRACTICES (BMP'S)

SITE NAME	LEGAL	DIS- TURBED ACRES	TIME LAPSE'	SURFACE WATER LOCATION'	STRAW BALES
CASCADE COUNTY					
COTTONWOOD CREEK	T18N, R5E, SEC. 07 SE1/4	0.001	1/2	0.06	
DOLENA WELL	T18N, R5E, SEC. 07 NW1/4	0.06	5	0.04	
STOCKETT-WESTRIDGE	T19N, R4E, SEC. 36 NW1/4	3.58	15	0.11	308
VENTS	T19N, R4E, SEC. 24 SE1/4	0.06	1	0.16	
CENTERVILLE 'C'	T19N, R5E, SEC. 18 & 19	1.94	2	0.01	35
WORK AREA 23	T19N, R4E, SEC. 13 NW1/4	0.82	5	0.03	63
WORK AREA 15	T19N, R4E, SEC. 13 SW1/4	2.61	5	0.03	
MINING COULEE	T19N, R4E, SEC. 23 E1/2	0.05	3	0.03	
BELT CULVERT	T19N, R6E, SEC. 26 W1/2	0.25	5	0.15	
ANACONDA	T19N, R6E, SEC. 26 SW1/4	0.23	2	0.01	63
JUDITH BASIN COUNTY					
RAYNESFORD 'C'	T17N, R09E, SEC. 32 SE1/4	0.85	4	0.13	
COAL MINE COULEE	T15N, R11E, SEC. 2 & 11	0.48	2	0.02	
HUGHES E	T15N, R12E, SEC. 29 N1/2	0.10	2	0.25	
TOTAL ALL SITES		11.03			

The purpose of this project is to reclaim abandoned coal mines previously reclaimed and now requiring some additional maintenance work. The construction activity for each site is described under the Work Description found on the Individual Site Plans. Work tasks will include salvaging and replacing cover soil; providing water for dust control; closing mine adits; backfilling subsidence; neutralizing coal slack; and, revegetation of all areas. Best Management Practices (BMP's) during construction to control sediment and erosion in storm runoff include: temporary stabilization practices of mulching the entire area to be revegetated and placing straw bales for erosion control (as required see table above); and permanent stabilization practices of seeding and fertilizing (100% revegetation of all sites).

The Owner is the Montana Department of State Lands, Reclamation Division, Abandoned Mine Reclamation Bureau, 1625 11th Avenue, Helena, Montana 59620 at telephone 1-444-2074. The Project Manager is Joel Chavez.

Good housekeeping for petroleum products, wastes, fertilizer and off-site tracking will be followed by the Contractor as outlined in MPDES Stormwater Discharge Permit and Erosion Control Plan. Good housekeeping chores will include as a minimum: 1) Any construction waste from materials packaging, or other contractor generated waste will be disposed of in a licensed disposal facility; 2) If conditions on-site become such that there is potential to track sediment off-site, then all vehicles shall be washed down before being allowed to leave the project area. Vehicle washing will take place so as to contain all washed sediment on-site in such a manner as to prevent spillage and prevent contamination of the surrounding soil. All materials shall be stored in a bermed plastic lined storage area with a capacity of 110 percent of the largest container. Absorbent material shall be available on-site for clean up of any spills. Any soil contaminated with petroleum wastes will be disposed of under a plan approved of by the Montana Department of Health and Environmental Sciences; and, 4) Lime and fertilizer shall be stored on pallets off the ground or on plastic ground covers and covered with plastic or in other such manner as to prevent spillage and washing from rain water or wind into surrounding soil or off-site.

FOOTNOTES

- Estimated time period in days from the start of construction until the site is permanently fertilized and seeded. This is the time from site arrival until demobilization. Temporary stabilization will include mulch and straw bales as outlined above.
- The distance in miles to the nearest source of potential surface water including rivers, and streams (perennial, intermittent or current dry drainages). A full description of distances to water sources is shown on the Individual Site Plans.

LANDOWNER/CONTACT LIST

Cottonwood Creek SE1/4 of Sec. 7 T18N, R5E	Richard Knaup 263 Cottonwood Coulee Rd Stockett, MT 59480 406-736-5434	Belt Culvert W1/2 of Sec. 26 T19N, R6E	Mayme Ballatore c/o Frank Ballatore P.O. Box 344 Belt, MT 59412 406-277-3244
Dolena Well NW1/4 of Sec. 7 T18N, R5E	Anna Leah Dolena P.O. Box 61 Stockett, MT 59480 406-736-5507		Terry Williams c/o Dateline Drilling 3650 N. Grant Creek Rd Missoula, MT 59802 1-800-223-9824
Stockett-Westridge S1/2NW1/4 of Sec. 36 T19N, R4E	Ernest & Marilyn Chartier P.O. Box 96 Sand Coulee, MT 59472 406-736-5366		Ron Carlson P.O. Box 348 Belt, MT 59412 406-277-3865
Vents SE1/4SE1/4 of Sec. 24 T19N, R4E	Eleanor Singles Star Route Stockett, MT 59480 406-736-5575	Anaconda SW1/4 of Sec. 26 T19N, R6E	George and Paula Drga 2238 Tiger Butte Road Belt, MT 59412 406-277-3249
Mining Coulee E1/2E1/4 of Sec. 23 T19N, R4E	Ernest & Marilyn Chartier P.O. Box 96 Sand Coulee, MT 59472		Access Road Patricia Irvine 20940 Hubbard Cutoff Rd Aurora, OR 97002 503-678-2469
Centerville 'C' SE1/4 Sec. 18 and NE1/4 Sec. 19 T19N, R5E	Otto E. Johnson Star Route, Box 67 Sand Coulee, MT 59472 406-736-5153	Coal Mine Coulee SW1/4 of Sec. 2 T15N, R11E	Hughes Newford Company Mrs. G. (Ruth) Hughes P.O. Box 558 Stanford, MT 59479 406-566-2650
Work Area 23 SE1/4NW1/4 of Sec. 13 T19N, R4E	Leo Marko P.O. Box 66 Sand Coulee, MT 59472 406-736-5389		Ranch Managers John and Betty Sampsel (daughter & son-in-law) 406-566-2700
	Centerville School Board Centerville, MT 59480	NE1/4 of Sec. 11 T15N, R11E	Bureau of Land Management Scott Haight P.O. Box 1160, Airport Rd Lewislow, MT 59457 406-538-7461
	Rose M. Frantzlich 1091 Helena Avenue Helena, MT 59601 406-443-1402	Hughes E NW1/4 of Sec. 29 T15N, R12E	Peter and Violet Marcott 135 South Hilltop Road Columbia Falls, MT 59479 406-892-2204
	Violet F. Hills and Joan Wheeler P.O. Box 127 Chester, MT 59522 406-759-5437 (H) 406-759-5477 (W)	Raynesford 'C' SE1/4 of Sec. 32 T17N, R9E	McKay Trust c/o Mary McKay Joyner 425 Riverview Court Great Falls, MT 59404 406-761-3378
	Big Stone Colony Andy Wurz P.O. Box 70 Sand Coulee, MT 59472 406-736-5401		

PHOTO INDEX &
AS BUILT DRAWING

MAP SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET	1
COTTONWOOD CREEK	2
DOLENA WELL	3
STOCKETT-WESTRIDGE	4
VENTS	5
CENTERVILLE 'C'	6
WORK AREA 23	7
MINING COULEE	8
BELT CULVERT	9
ANACONDA	10
RAYNESFORD 'C'	11
COAL MINE COULEE	12
HUGHES E	13

ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THE WORK SHOWN ON THESE
MAPS AND PLANS WAS PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION.

William C. Maehl
William C. Maehl
Montana P.E. No. S274 PE

SITE PLAN AND GENERAL LAYOUT 1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT

MT DSL-AMRB 93-M06
CASCADE AND JUDITH BASIN COUNTIES, MONTANA
STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING

Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone 406-259-2412

DATE 9/3/93		
DRAWN BY RMS		
APPROVED BY WCM		
REVISIONS		
NO	DATE	BY
SHEET NO 1 of 3		

Notice

An abandoned coal mine underlies this site. Many potential hazards exist. The extent of these hazards is not fully known. Contractors and other persons working at the site shall apprise themselves of the conditions and take whatever steps are deemed necessary to ensure safety while performing their duties.

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located approximately 300 feet from the unnamed drainage-way in an unnamed coulee draining into Cottonwood Creek 1,300 feet away which flows into Sand Coulee Creek another 4.7 miles further.

HAZARD NOTICE

MANY POTENTIAL HAZARDS EXIST AT THESE MINE SITES. THE EXTENT OF THESE HAZARDS IS NOT FULLY KNOWN.

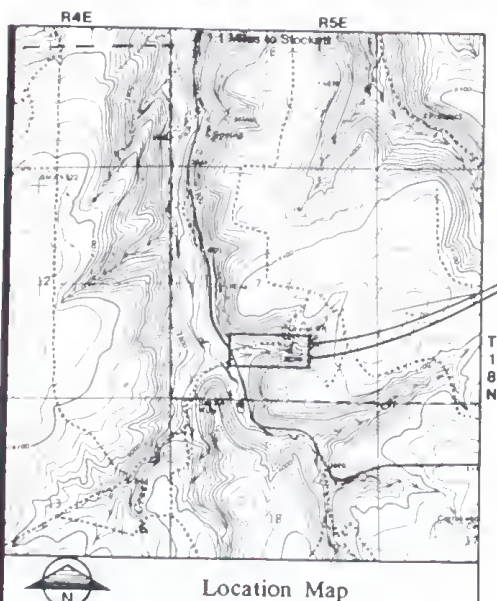
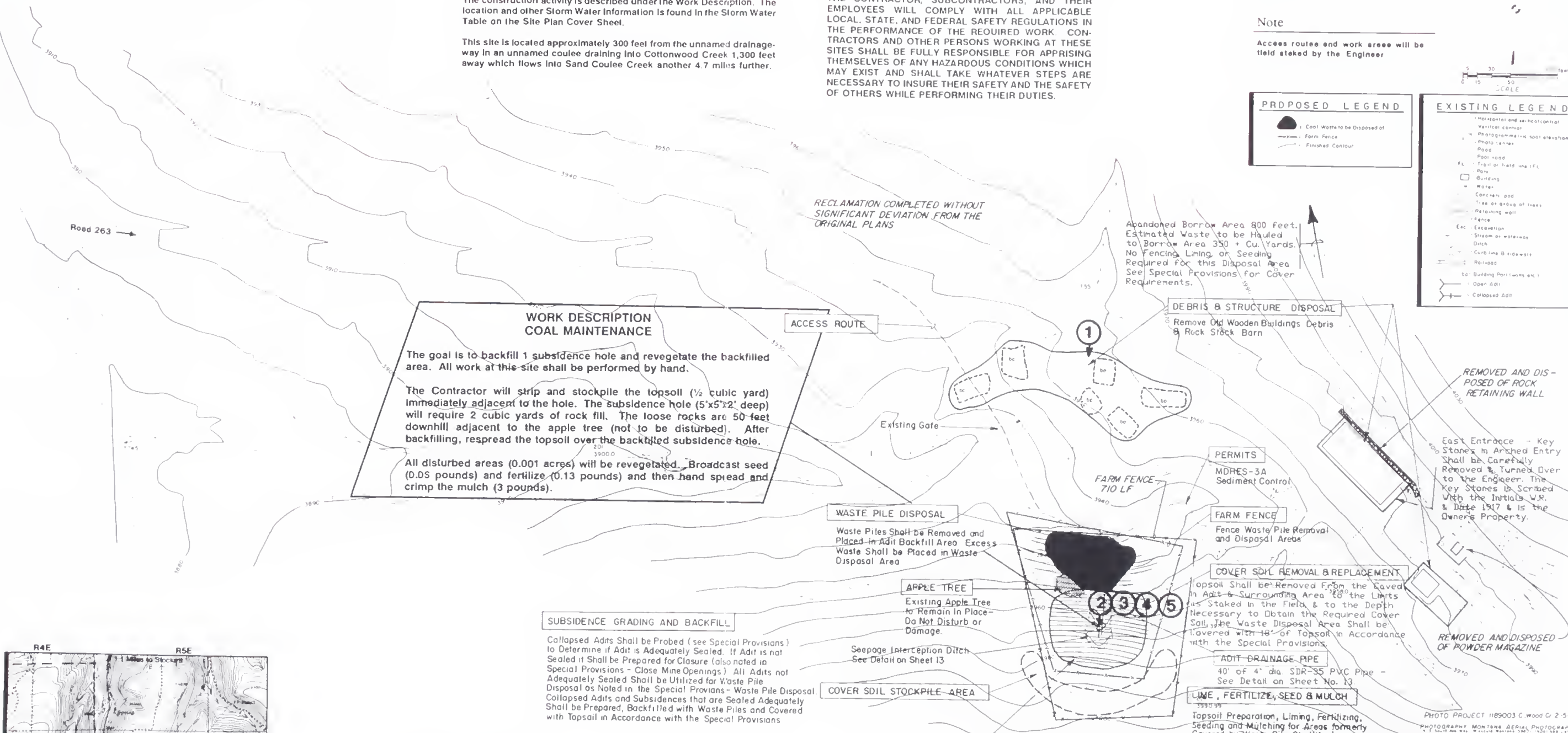
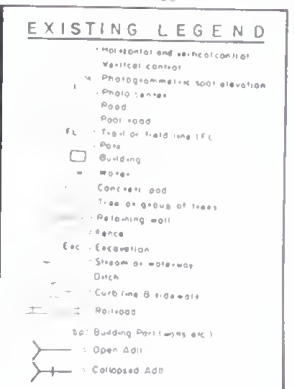
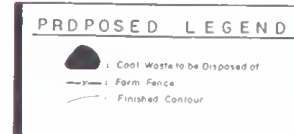
THE CONTRACTOR, SUBCONTRACTORS, AND THEIR EMPLOYEES WILL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS IN THE PERFORMANCE OF THE REQUIRED WORK. CONTRACTORS AND OTHER PERSONS WORKING AT THESE SITES SHALL BE FULLY RESPONSIBLE FOR APPRISING THEMSELVES OF ANY HAZARDOUS CONDITIONS WHICH MAY EXIST AND SHALL TAKE WHATEVER STEPS ARE NECESSARY TO INSURE THEIR SAFETY AND THE SAFETY OF OTHERS WHILE PERFORMING THEIR DUTIES.

Land Owners

Richard Knaup
263 Cottonwood Coulee Road
Stockett, MT 59480
Phone (406) 736-5434

Note

Access routes and work areas will be field staked by the Engineer.



ARCHAEOLOGICAL NOTICE

THERE MAY BE ARCHAEOLOGICAL SITES IN THE VICINITY OF THE PROJECT SITES. ANY ARCHAEOLOGICAL MATERIALS NEAR THE CONSTRUCTION AREA WILL BE MARKED BY THE OWNER. AT NO TIME SHALL THESE ARCHAEOLOGICAL MATERIALS BE DISTURBED WITHOUT WRITTEN PERMISSION FROM THE OWNER.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

11"x17" PRINTS ARE APPROXIMATELY 1/2 THE ORIGINAL SCALE

← **CLOSED BY ADIT SEAL**
NOTES OF THIS STYLE ARE AS-BUILT COMMENTS OR ADDITIONS ADDED TO THIS SET OF PLANS BY ROBERT PECCIA & ASSOCIATES, MARCH, 1991.

Quantity Estimate

Salvage and Replace Topsoil	500 Cu.Yds.
Provide Water	7800 Gals.
Lime, Fertilize, Seed and Mulch	1.0 Acre
Waste Pile Disposal	650 Cu.Yds.
Adit Seal - Riprap	It Required, 1 Each
Farm Fence F-4	650 Linear Ft.
Adit Drainage System	1 Each
Haul	350 Cu.Yds.
Debris & Structure Removal - Rock	140 Cu.Yds.
Debris & Structure Removal - Wood	830 Sq. Yds.

* Quantity Based of Estimated Application Rate of 12 Gals./Cu.Yd. of Grading and Backfill (assumptions for estimating: in situ Moisture Content 8%; Optimum Moisture Content 12%; Material Density 98 Lbs/Cu.Ft.)

PHOTO INDEX & AS BUILT DRAWING

COAL MAINTENANCE
COTTONWOOD CREEK SITE
SECTION 7, T18N, R5E
CASCADE COUNTY, MONTANA

Date: July 1993
Sheet No. 2 of 13

Project: Cascade County Small Prospects A.M.R.B.

Sheet Title: Cottonwood Creek Reclamation Options

Hydrometrics, Inc.
Consulting Scientists and Engineers
2727 Airport Road
Helena, Montana 59601
(406) 643-0150

Project: Cascade County Small Prospects A.M.R.B.

Sheet Title: Cottonwood Creek Reclamation Options

Hydrometrics, Inc.
Consulting Scientists and Engineers
2727 Airport Road
Helena, Montana 59601
(406) 643-0150

EXHIBIT 6



① PICTURE 1 IS A HELICOPTER VIEW LOOKING NORTHEAST AT ANNA DOLENA'S HOUSE AND OUT BUILDINGS.



② PICTURE 2 IS A VIEW LOOKING SOUTH AT ANNA DOLENA'S HOUSE AND UP THE ROAD WHERE THE PROPOSED WELL WILL BE DRILLED.

WORK DESCRIPTION

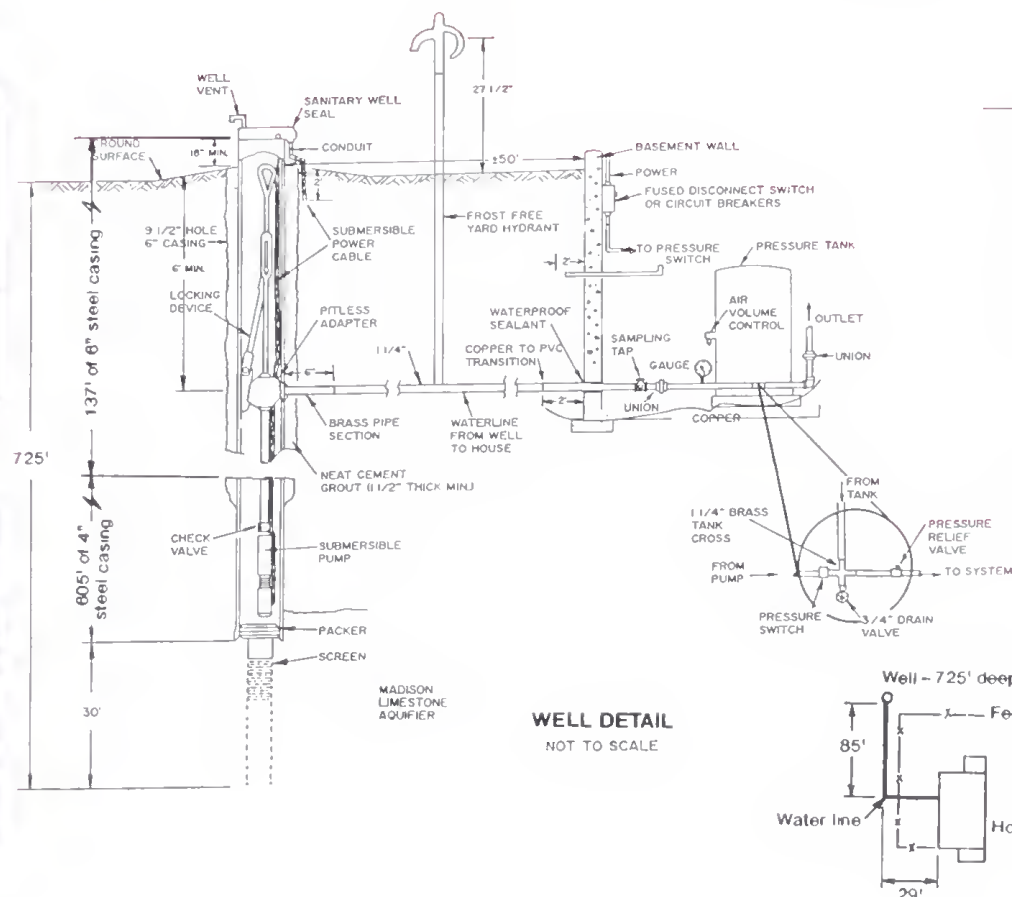
The goal is to drill a new water well. The well construction shall be performed by a licensed water well contractor. The work entails drilling a 9-inch diameter hole to a depth of approximately 300 feet (estimated top of the Madison Limestone is at 100 feet of depth and then 200 feet into the Madison Formation). The six inch casing will be installed in the top 270 feet with a 30 foot screen on the bottom.

The 1 1/4" water line will run 50 feet from the well head to the house. The trench excavation is estimated at 60 cubic yards with topsoil salvage estimated at 8 cubic yards. This is a brand new line and will not tie into the existing house line. This work item will not be considered complete until the well is pump tested, the water analysis returned, and all tasks are approved by the Engineer.

The Contractor will supply a new pressure tank and new hot water heater. All electrical work including installing power for the pump will be performed by a licensed electrician. The Contractor will have all of the plumbing pipes replaced throughout the house by a licensed plumber. Everything handling pressurized water will be replaced except the faucets, shutoff valves, sinks, toilets, and tub.

All work shall be performed in accordance with the Special Technical Specification for Water Well System Specifications for Dolena Well, the Special Provisions, and accepted Montana practices for water well drilling and development.

The trench (50 feet long by 8 feet wide = 0.01 acres) leading from the house to the well shall be revegetated. The Contractor will broadcast seed (0.48 pounds) and fertilize (1.3 pounds). Then the Contractor shall apply mulch and hand crimped over the vegetated area (30 pounds).



WELL DETAIL
NOT TO SCALE

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water information is found in the Storm Water Table on the Site Plan Cover Sheet.

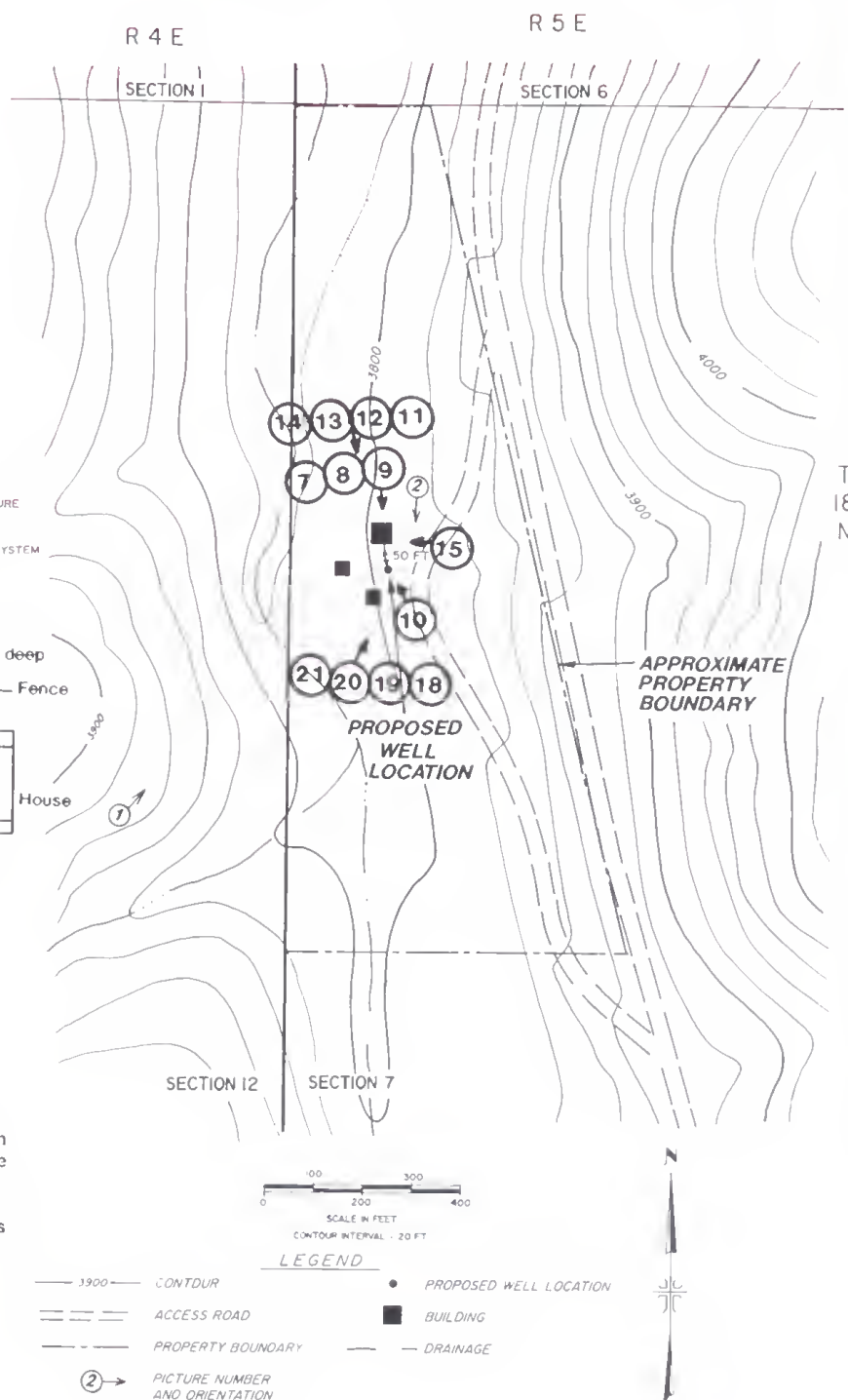
This site is located approximately 200 feet from Cottonwood Creek which flows into Sand Coulee Creek (over 4 miles away).

LANDOWNERS

Anna Leah Dolena
P.O. Box 61
Stockett, MT 59480
406-736-5507

BASE MAP

Topography is of reconnaissance class and has not been field checked. Vertical datum is based on Interpolation to the USGS 7 1/2 minute quadrangle shown on this sheet.

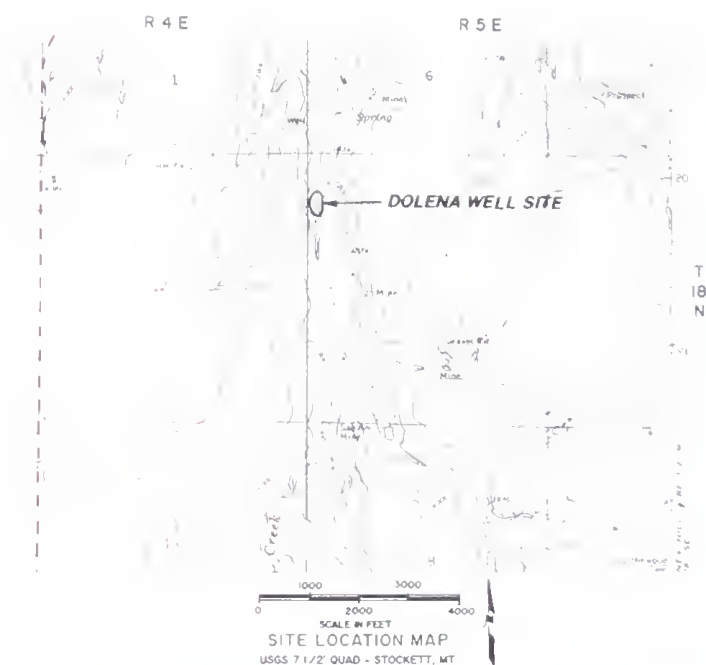
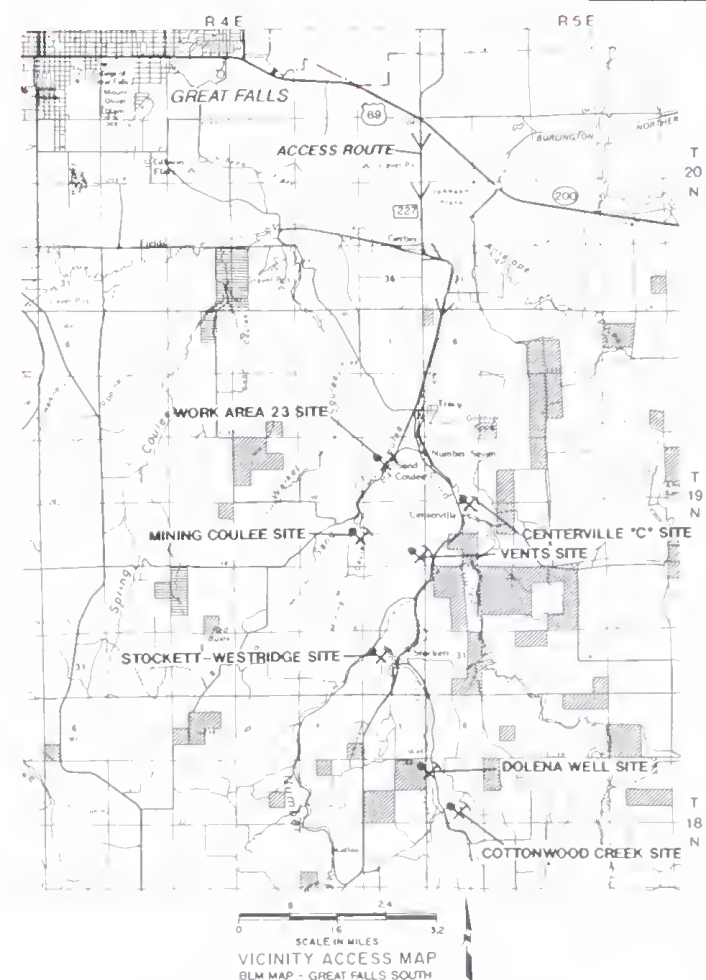


NOTE

ACCESS ROUTES, WORK AREAS, AND CONSTRUCTION LIMITS WILL BE FIELD STAKED BY THE ENGINEER. VEHICLE TRAVEL WILL BE LIMITED TO ROUTES FLAGGED.

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SITE PLAN AND GENERAL LAYOUT

DOLENA WELL SITE

NW 1/4 OF SECTION 7, T18N, R5E
CASCADE COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONEO MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers

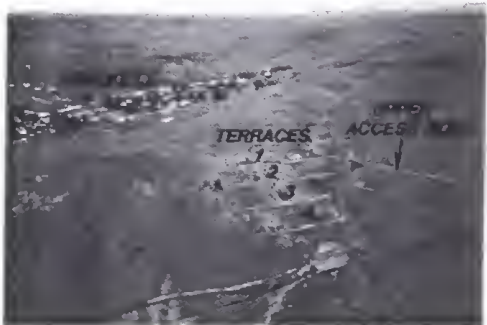
1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

DATE: 9/3/93
DRAWN BY: RMS
APPROVED BY: WCM
REVISIONS
NO. DATE BY
SHEET NO. 2 of 13

PHOTO INDEX &
AS BUILT DRAWING



1 PICTURE 1 IS A HELICOPTER VIEW LOOKING EAST AT PROJECT AREA.



2 PICTURE 2 IS A HELICOPTER VIEW LOOKING SOUTHEAST AT THE PROJECT AREA.



3 PICTURE 3 IS LOOKING NORTH AT THE BARREN HILLSIDE BETWEEN TERRACES 2 AND 3.



4 PICTURE 4 IS LOOKING NORTHWEST AT THE MATERIAL WASHED INTO THE FIELD CAUSED BY A BREAK IN THE DITCH.

ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.

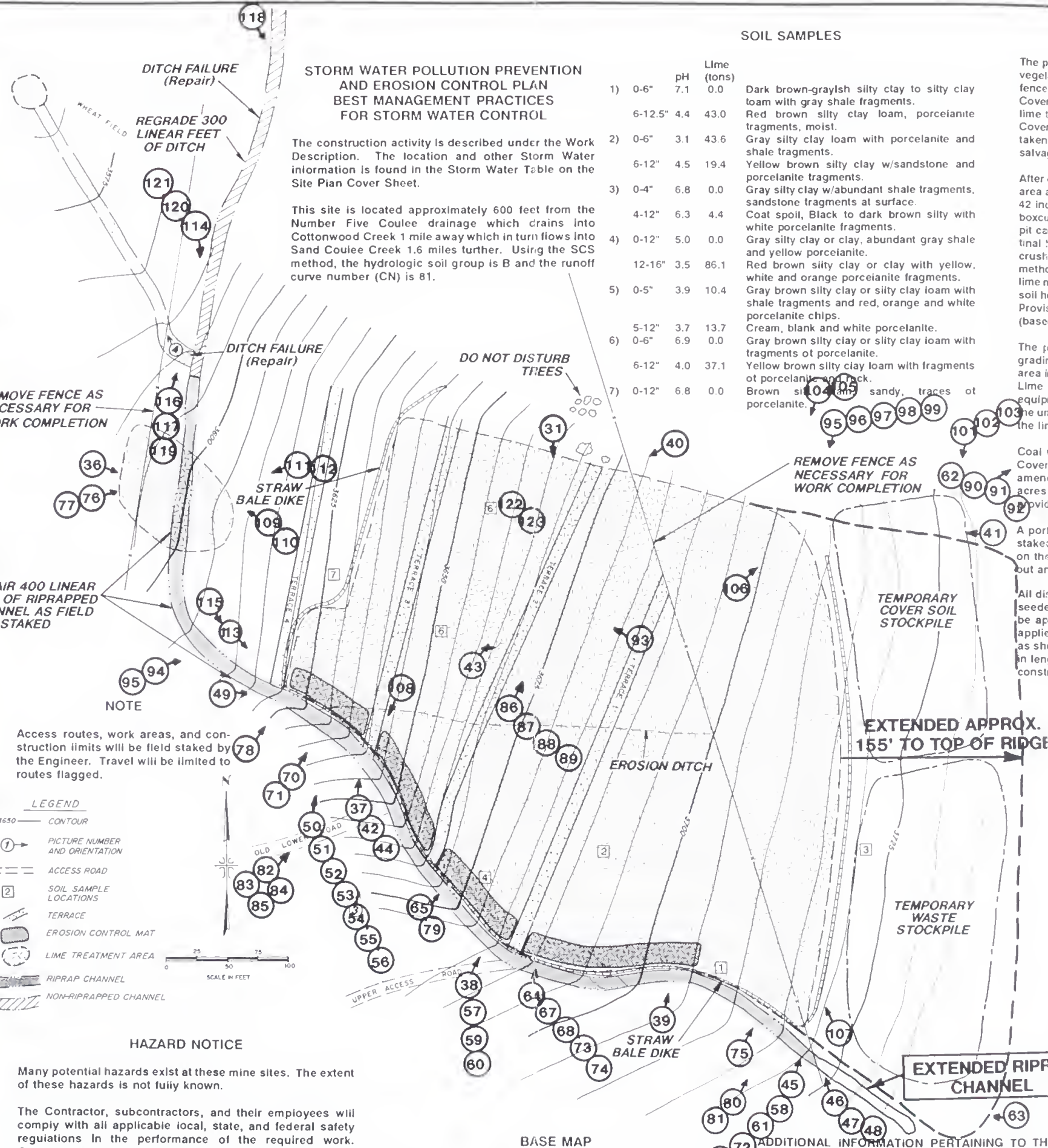
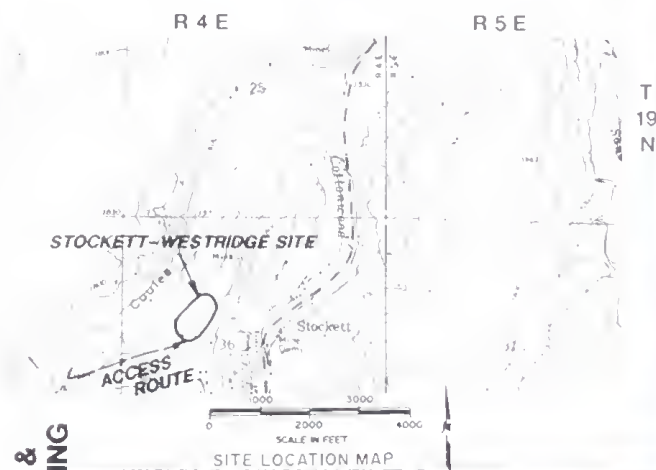


PHOTO INDEX & AS BUILT DRAWING



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HAZARD NOTICE

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ARCHAEOLOGICAL NOTICE

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LANDOWNERS

Ernest and Marilyn Chartier
P.O. Box 96
Sand Coulee, MT 59472
406-736-5366



① PICTURE 1 IS A HELICOPTER VIEW LOOKING WEST AT THE DUMP JUST DOWNHILL FROM THE VENTS



② PICTURE 2 IS TAKEN LOOKING NORTHEAST FROM THE TOP OF THE DUMP AT THE COLLAPSED ADIT TRENCH CONTAINING 4 AIR VENTS AND THE LARGE ROCK BEHIND WHICH IS ANOTHER AIR VENT.



③ PICTURE 3 IS LOOKING SOUTHWEST BEHIND THE BIG ROCK AT ONE OF THE AIR VENTS.

WORK DESCRIPTION

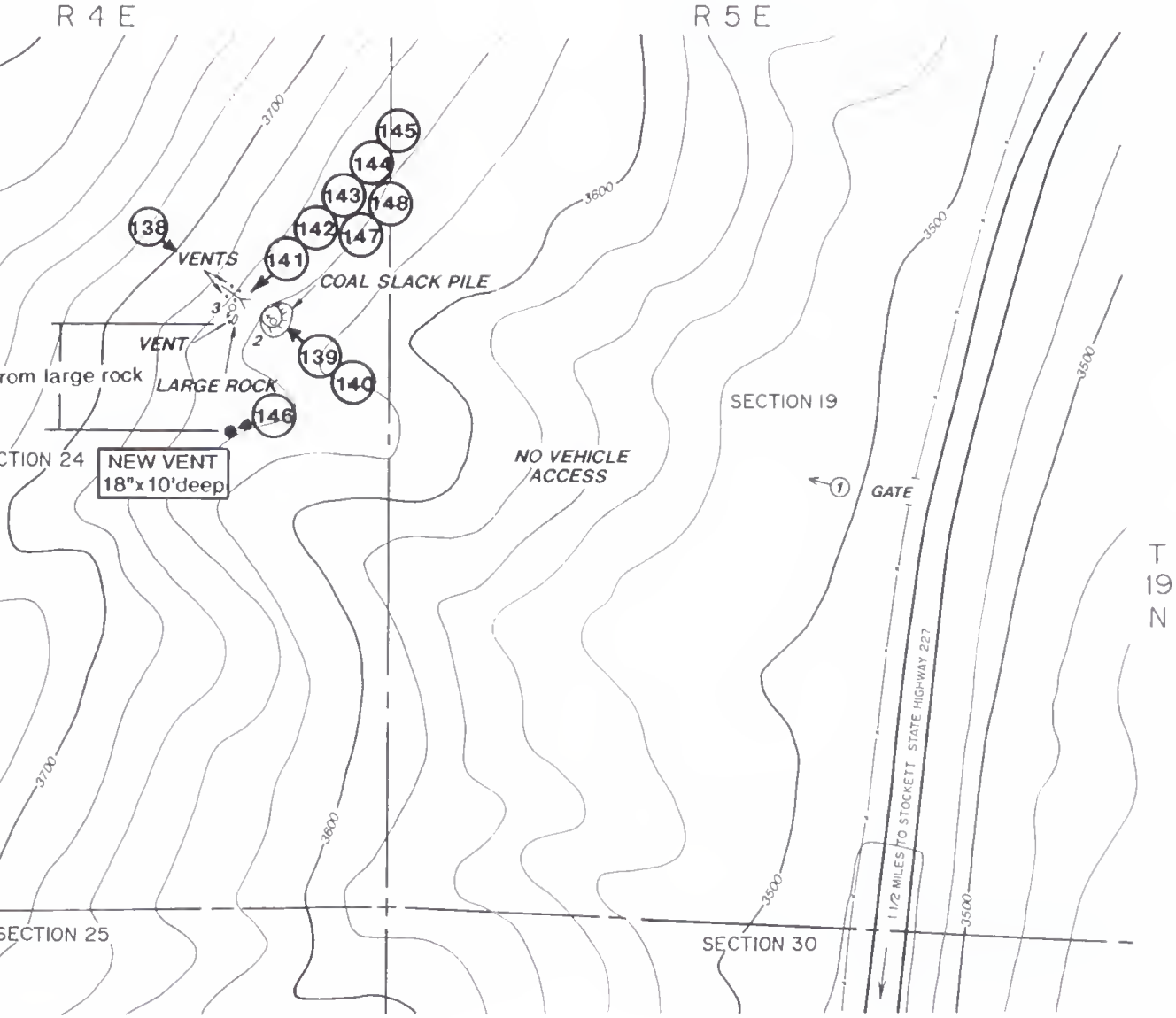
The goal is to backfill 5 small vents, neutralize the coal slack pile, and then revegetate. All site work will be performed by hand. The Contractor will backfill these holes (which average 6-8" in diameter and several feet deep) with adjacent material. The top 18 inches of each hole will be sealed with concrete to prevent any air from reaching the coal seam. Each hole will require one 60 pound bag of redi-mix concrete. The coal slack pile (50'x50' area) shall be neutralized. Lime shall be applied at the rate of 2 tons/acre/6" slice (0.12 tons required). It shall be hand mixed to a 6 inch depth.

All disturbed areas (0.06 acres) shall be broadcast seeded (2.88 pounds) and fertilized (7.80 pounds). Then the mulch shall be applied and hand crimped over the vegetated area (180 pounds).

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN
BEST MANAGEMENT PRACTICES
FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located approximately 850 feet from Cottonwood Creek which flows into Sand Coulee Creek 5,000 feet away.



BASE MAP

Topography is of reconnaissance class and has not been field checked. Vertical datum is based on interpolation to the USGS 7 1/2 minute quadrangle shown on this sheet.

NOTE

ACCESS ROUTES, WORK AREAS, AND CONSTRUCTION LIMITS WILL BE FIELD STAKED BY THE ENGINEER. VEHICLE TRAVEL WILL BE LIMITED TO ROUTES FLAGGED.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

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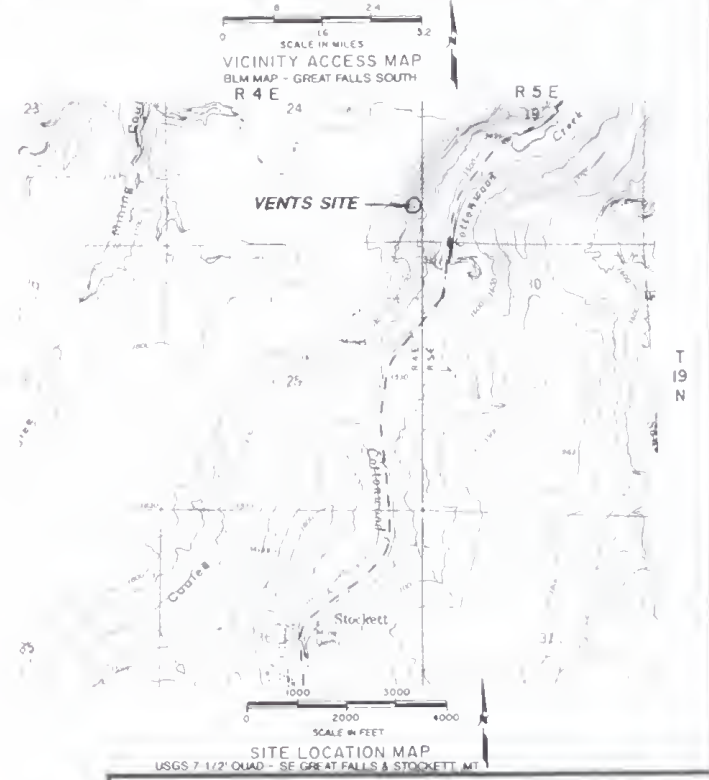
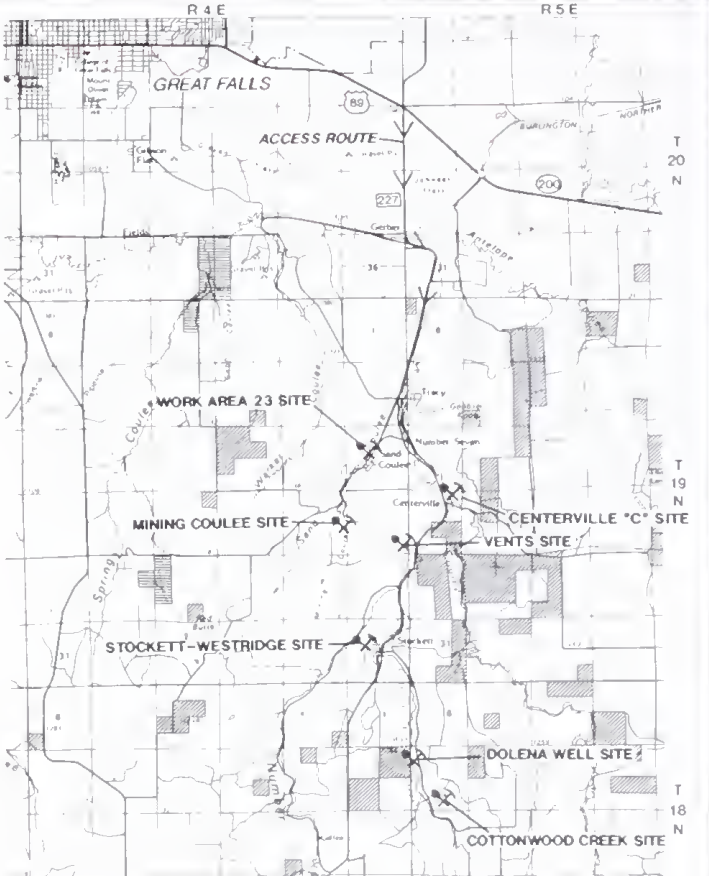


PHOTO INDEX & AS BUILT DRAWING

SITE PLAN AND GENERAL LAYOUT

VENTS SITE

SE 1/4 OF SECTION 24, T19N, R4E
CASCADE COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone 406-259-2412

DATE 9/3/1993
DRAWN BY RMS
APPROVED BY WCM
REVISIONS
NO. DATE BY
SHEET NO. 5 of 13

LANDOWNERS

Otto E. Johnson
Star Route, Box 67
Sand Coulee, MT 59472
406-736-5153

Leo Marko
P.O. Box 66
Sand Coulee, MT 59472
406-736-5389

Centerville School Board
Centerville, MT 59480

WORK DESCRIPTION

The purpose of this project is to establish vegetation on several barren areas and to excavate a limestone trench.

The Contractor will excavate the limestone trench after coordinating the digging time with the AMRB. The trench is approximately 10 feet wide by 135 feet long by at least 2 foot deep.

All disturbed areas (1.94 acres) will be revegetated. Broadcast seed 0.39 acres (19.7 pounds) and fertilize (50.7 pounds) the embankments around the three cells. Drill seed 1.55 acres (37.2 pounds) and fertilize (201.5 pounds) an open area and the trench excavation. Mulch shall be applied and hand crimped over the three cell areas (1,170 pounds). Machine crimp the mulch over the other areas (4,650 pounds). A straw bale dike (one row 140 feet in length-approximately 35 bales) will be placed end-to-end along the downhill side of the excavated limestone trench construction area.

CASCADE MINE DRAINAGE - PHASE I WORK DESCRIPTION (COMPLETED)

CENTERVILLE "C" SITE

- Removed and relocated existing 42" CMP to new site access location.
- Removed and salvaged existing fences.
- Constructed access roads
- Installed 20' of 18" PE culvert under new access road across north drainage
- Closed Adit #2 & #1.
- Constructed interceptor drains. locations shown on the Record Drawings.
- Cleaned out existing 4" PVC line.
- Provided trench dewatering. Discharged into bypass systems, not into wetland cells or limestone trenches.
- Installed PVC drain pipes connecting the interceptor trenches to the drain lines leading to the discharge areas. The Contractor made all necessary connections and provided concrete anchors (thrust blocks).
- Provided pipe cleanouts every 100' on all new pipe runs including those in the interceptor drains. Approximate pipe depth below ground surface at each cleanout found in attachment to Record Drawings.
- All piping buried a minimum depth of 4'. Additional cover material placed over any sections of pipe not be buried 4' deep due to bedrock or other factors.
- Constructed surface collection basin with weir outlet structure.
- Constructed limestone trench.
- Installed limestone veneer at small seep locations.
- Installed 2 service holes and provided PVC fittings.
- Excavated and stockpiled all topsoil and subsoil from the areas where the wetland cells were constructed.
- Constructed 3 wetland cells.
- Graded slope upgrade of the cells to provide a route around the cells for surface runoff.
- Installed outflow ditches from the wetland cells to the adjacent cell or drainage channel.
- Provided 1000 gallon fiberglass stock tank with valve and piping.
- Removed and salvaged existing 12" PVC pipe near stream channel to on-site location and to landowner.
- Regraded north drainage channel.
- Installed weir structures and wetland piping.
- Installed bentonite seal, liner, gravel, and peat in wetland cells. Installed hay bale dikes in the wetland cells.
- Transplanted wetland vegetation in wetland cells.
- Flooded wetland cells with clean water (source from nearby Centennial Park well). This was done a minimum of one week before turning on mine drainage.
- Reclaimed all areas within the project site that did not support a healthy stand of vegetation. All areas disturbed during construction also were reclaimed.
- Reclamation consisted of an initial grading to remove erosion rills. Application and incorporation of lime to existing revegetated areas. Placement of 4" cover soil on limed areas. Soil generated by on site and imported. Fertilized, seeded and mulched all revegetated areas as well as construction disturbed areas including temporary haul/access roads. Construction disturbed area seedbed preparation included regrading and ripping.
- Grading of revegetated area #1 also included grading slumped soil to create a uniform slope while constructing a 5' wide slope terrace. The terrace is sloped approximately 1% into the hill and has about a 1% grade toward the existing drainage.
- Constructed a permanent 5-strand barbed-wire farm fence (Type F-5M) around the wetland cells and the surface collection basin.
- Installed sections of 4-strand farm fence type (F-4M) as shown on the Record Drawings.
- Installed Erosion control mat on revegetated area #1 and north drainage channel.
- Transplanted trees to Centerville Park.

NOTE

Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located 70 feet from Sand Coulee Creek.

HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.

RECORD DRAWINGS

PHOTO INDEX & AS BUILT DRAWING

COAL MAINTENANCE

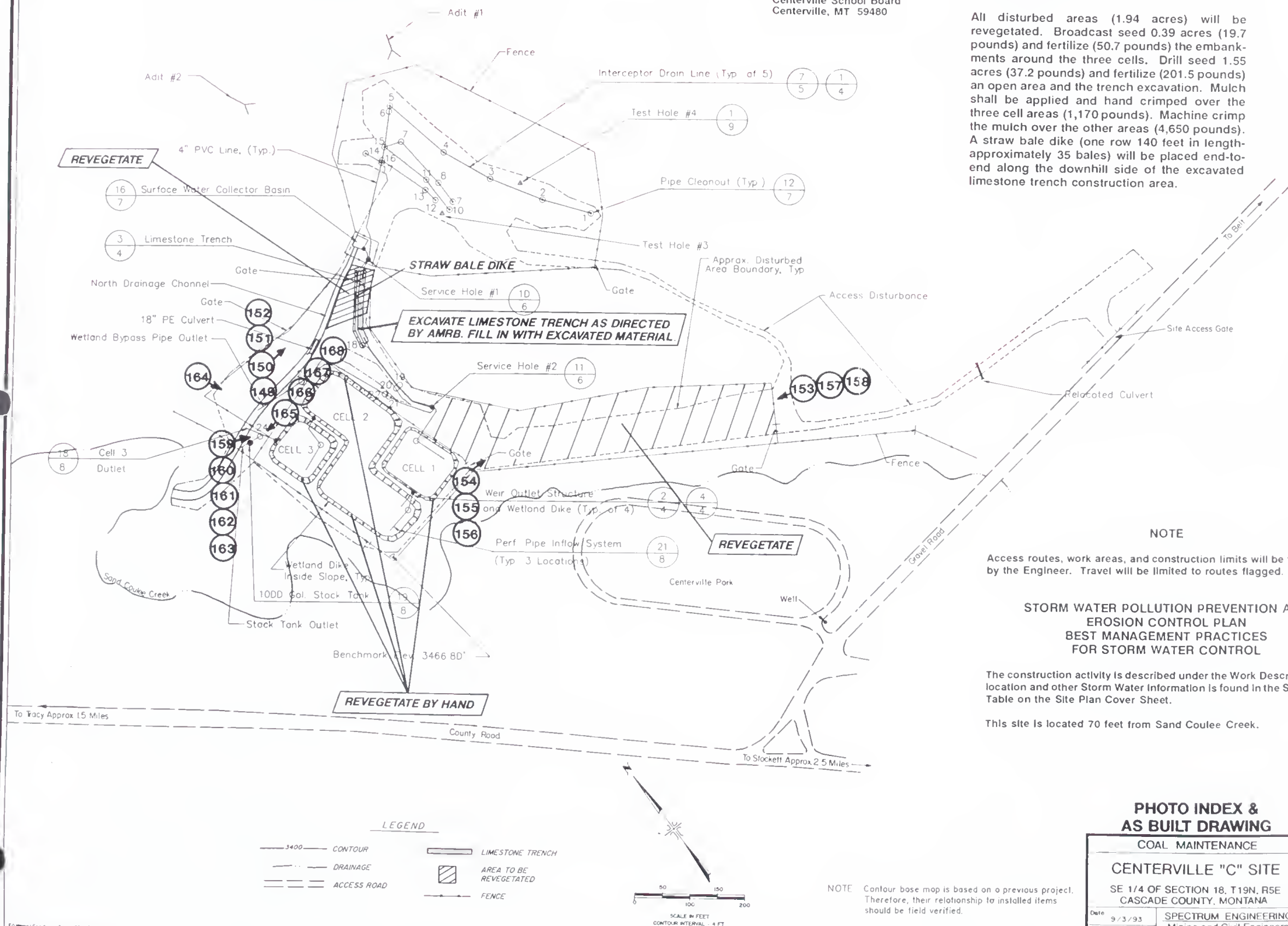
CENTERVILLE "C" SITE

SE 1/4 OF SECTION 18, T19N, R5E
CASCADE COUNTY, MONTANA

Date: 9/3/93
Sheet No: 6 of 13
SPECTRUM ENGINEERING
Mining and Civil Engineers
Billings, Montana

Project No.: 91-DD1	Sheet Title:	New Sheet
Date: 12/92	CENTERVILLE "C" SITE	6 of 13
Designed By: RBM	Project Title:	2
Drawn By: NLL	Cascade Mine Drainage	Sheet 2 of 12
Checked By: NGC		

•Robert Peccla & Associates • Helena, MT • RPA•







① PICTURE 1 IS A HELICOPTER VIEW LOOKING NORTHWEST AT THE COAL SLACK AREAS.

WORK DESCRIPTION

The goal of this project is to amend acidic coal waste with lime and establish vegetative cover. A trench drain will also be installed. Access will be gained by removing fence as necessary. The fence shall be replaced after work is completed.

Coversoil (110 CY) shall be stripped from the lime mixing area (0.135 acres) to a minimum of 6 inches and be stockpiled on the southwest and (in a 40'x40' area). Upon completion of lime mixing, the lime mixing area shall be prepared for replacement of coversoil by ripping to a depth of 12 inches with ripper teeth spaced a minimum of one-foot apart. Coversoil shall be replaced on the mixing area in one six-inch lift.

All waste (1573 CY) shall be stripped from the area (0.65 acres) designated on the Site Plan to an average depth of 1½ feet (ranging from ¼ foot to over 2 feet) below the ground surface or until bedrock is encountered. The soil shall be moved to the lime mixing area and spread in lifts no greater than six inches. Rocks greater than four-inches in diameter shall be removed from the stripped material and stockpiled in a location designated by the Engineer.

Lime shall be applied and uniformly mixed with the soil at a rate of 60 tons per acre for each six-inch lift. After each six-inch lift is amended, another six-inch lift can be placed on top and amended in a similar manner. Lime requirements are 117.0 tons (0.65 acres x 60 t/ac/6" x 3 slices). After amendment incorporation, amended soil shall be placed on the excavated slope and graded to match existing contours. Prior to placement of the last (top) six-inch lift of amended soil, topsoil (525 cubic yards-enough to cover entire 0.65 acres six-inches deep) shall be applied and thoroughly mixed with the top six-inch lift. This twelve inches of amended soil and topsoil mix shall then be replaced and prepared for vegetation.

An Interception drain will be installed as field staked by the Engineer. The purpose of the drain is to collect seep water from clay materials overlying weathered sandstone bedrock and allow the water to drain into the bedrock beneath the drain. The trench will be excavated to the depth of weathered bedrock (estimated at seven feet based on two test pit holes). The trench (3 feet wide by 200 feet long) will be graded to drain to the northeast at a minimum grade of 1% and a maximum grade of 2%.

The trench shall be lined with filter fabric equivalent to Mirafi® 140N. The width of the filter fabric shall be wide enough to completely envelope the limestone aggregate with no seams. The overlap of the fabric shall be placed as shown on the Interception Ditch Detail with a minimum overlap of one-foot. After the drainage fabric is installed, limestone aggregate shall be placed in the trench to a height of four feet above the bottom of the trench.

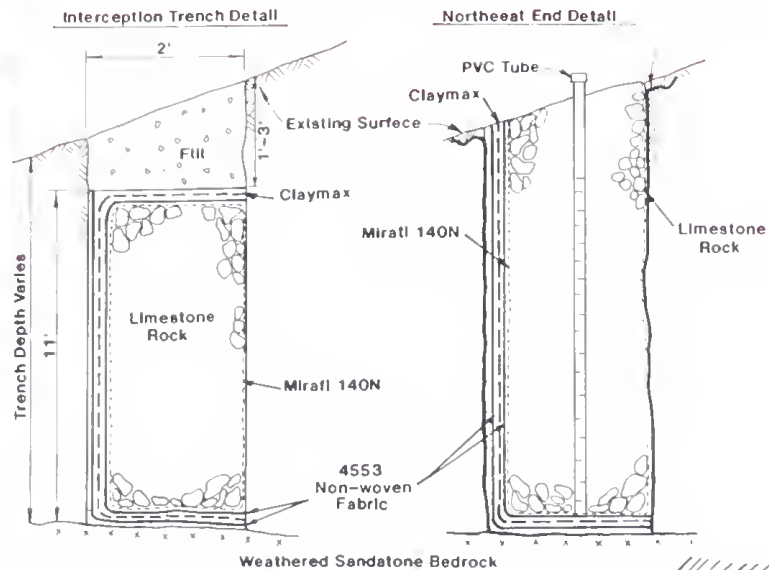
A bentonite seal will be placed on the downslope side of the trench and on top of the limestone aggregate. The bentonite seal will be a minimum of one-foot thick along the side and on top of the limestone aggregate. The bentonite supplied shall be high swelling sodium montmorillonite clay, equivalent to Envirogel 10® manufactured by Wyo-Ben, Inc. Bentonite shall be placed dry and compacted with two passes of a vibratory plate compactor. Native soil shall be placed on top of the limestone aggregate drain and compacted to 90% dry density.

This terminal end of the drain will be approximately 10 feet long. This end will be constructed so that the limestone aggregate is brought to the surface, eliminating the bentonite top seal. The filter fabric on this terminal end will be keyed into the sides of the trench. Key trenches shall be a minimum of 6-inches deep. The bentonite seal on the downslope side of the trench shall be brought to within one-foot of the surface. Native sandstone riprap shall be placed along the downslope side of the drain where limestone aggregate is filled to the surface in a strip approximately three feet wide. Riprap shall be a minimum of 8-inches in diameter.

The one monitoring tube to be installed shall be 1½-inch Schedule 40 PVC pipe with an end cap glued on the bottom end. The pipe shall be factory slotted or saw slotted. Sew slots shall be with a blade no wider than a standard metal hacksaw blade. Saw slots shall be cut on a spacing of one-inch so that they radiate around the pipe to a height of within one-foot of the surface. The pipe shall have a stick-up no greater than six-inches with the top capped with a standard cap.

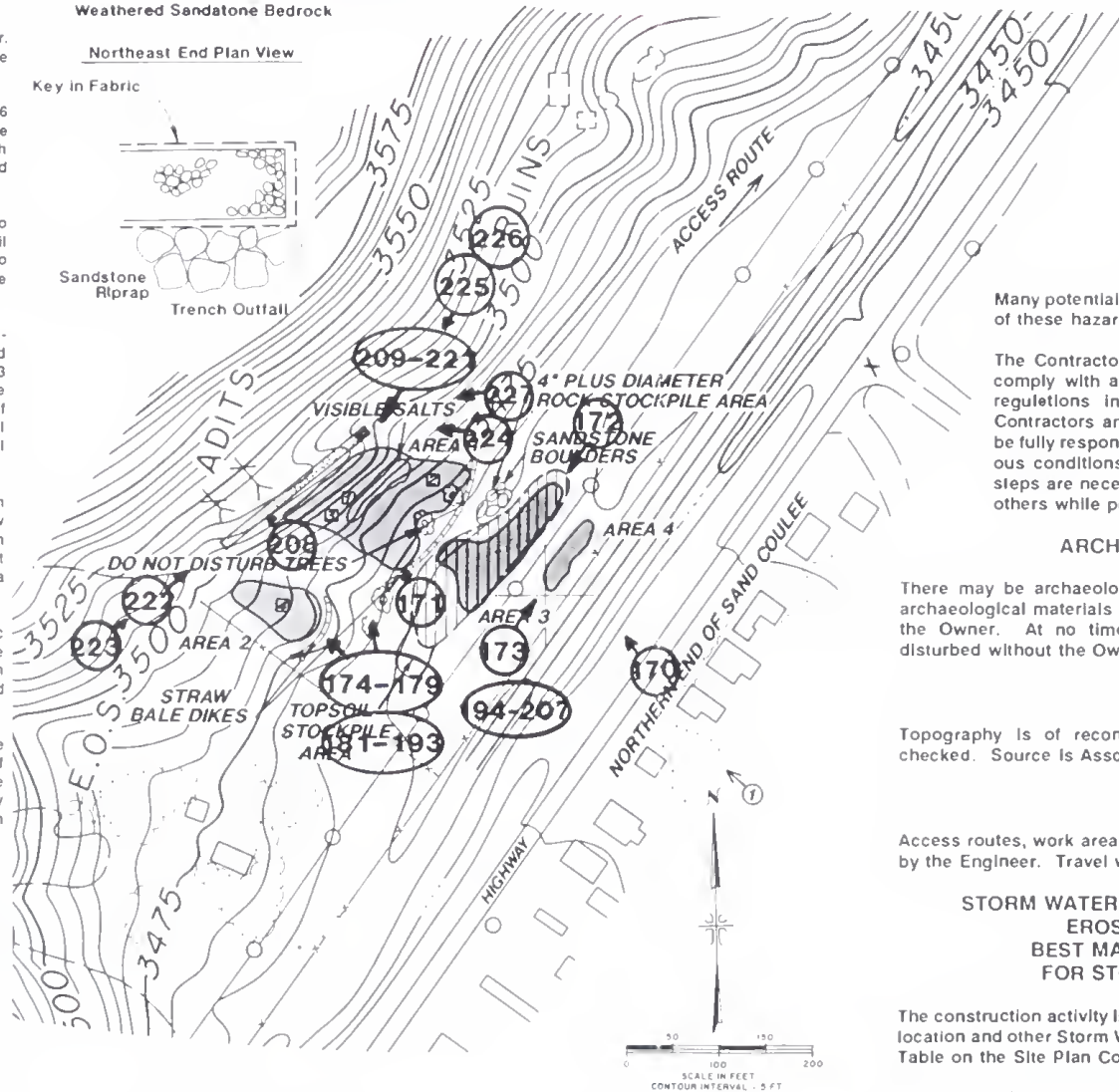
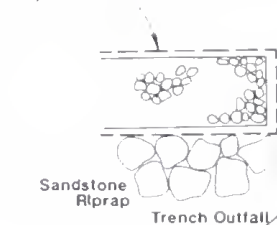
All disturbed areas (0.82 acres) will be revegetated. Drill seed (19.7 pounds) and fertilize (106.6 pounds) all areas. If drill seeding is not possible on the upper reaches of the slope, then broadcast seed at double the drill seed rate. Then mulch shall be applied and crimped over the flatter areas #3, #4, lime mix area and topsoil stockpile (0.36 acres requiring 1,080 pounds). Erosion control mat (North American Green SC-150 or equivalent) shall be placed on the two steep areas #1 and #2 (0.46 acres - 2,220 square yards of mat). Staples (8"x2"x8") will be hand driven.

A straw bale dike (one row 250 (90+160) feet in length-approximately 63 bales) will be placed end-to-end along the downhill side of the replaced neutralized waste material.



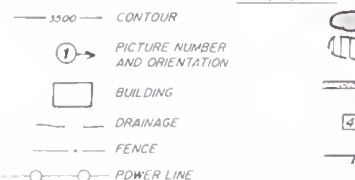
Northeast End Plan View

Key in Fabric



BASE MAP

Topography is of reconnaissance class and has not been field checked. Source is Associated Surveys map of 1983.



SOIL SAMPLES

		Lime (tons)	
1)	0-5"	3.7	43.4
	5-12"	3.0	56.8
2)	0-4"	3.1	42.6
	4-12"	3.0	79.6
3)	Number 3 and 4 are backhoe test pits (not analyzed for lime rate).		
	0-7"		Brown silty clay, moist
	7-17"		Yellow brown clay, moist
	17-30"		Brown clay
	30-36"		Yellow brown and orange brown clay, glistening with fine size sandstone rock fragments.
	36-84"		Light gray clay with yellow brown matter
	84-96"		Weathered yellow-brown sandstone bedrock. Water seeping into hole around 36" depth.
4)	0-66"		Brown silty clay, moist throughout with large sandstone boulders.
	66-84"		Yellow brown sandy clay, wet with sandstone fragments.
	84"+		Weathered sandstone bedrock. Water level is just above bedrock and flows about ¼ gallon/minute.

LANDOWNERS

Rose M. Frantzlich
1091 Helena Avenue
Helena, MT 59601
406-443-1402

Violet F. Hills and
Joan Wheeler
P.O. Box 127
Chester, MT 59522
406-759-5437 (H)
406-759-5477 (W)

Big Stone Colony Inc.
P.O. Box 70
Sand Coulee, MT 59472
406-736-5401

HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.

BASE MAP

Topography is of reconnaissance class and has not been field checked. Source is Associated Surveys map of 1983.

NOTE

Access routes, work areas, and construction limits will be field staked by the Engineer. Travel will be limited to routes flagged.

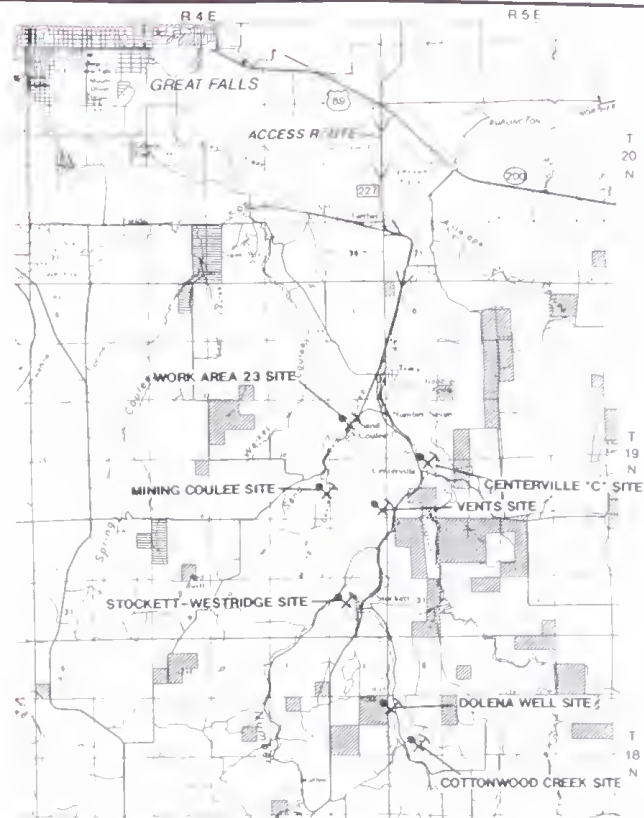
STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

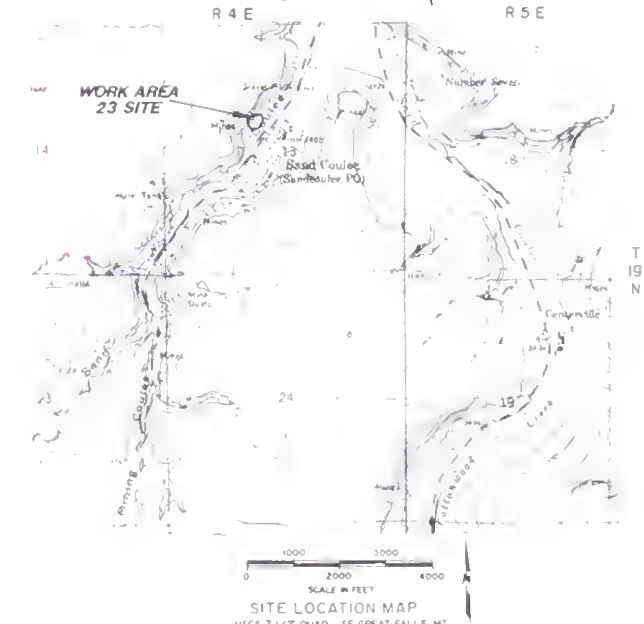
This site is located approximately 150 feet from the Sand Coulee drainage which in turn flows into Sand Coulee Creek 1.2 miles away.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

11"x17" PRINTS ARE APPROXIMATELY ¼ THE ORIGINAL SCALE



VICINITY ACCESS MAP
BLM MAP - GREAT FALLS SOUTH
R 4 E



SITE LOCATION MAP
USGS 7 1/2 QUAD - SE GREAT FALLS MT

SITE PLAN AND GENERAL LAYOUT

WORK AREA 23 SITE

NW 1/4 OF SECTION 13, T19N R4E
CASCADE COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone 406-259-2412

55620			
DATE		9/3/1993	
DRAWN BY		RMS	
APPROVED BY		WCM	
REVISIONS			
NO	DATE		BY
1	9/21/94	JMC	
SHEET NO 7 of 13			

PHOTO INDEX &
AS BUILT DRAWING



① PICTURE 1 IS A HELICOPTER VIEW LOOKING SOUTH UP MINING COULEE.



② PICTURE 2 IS A VIEW OF ADIT 4 LOOKING SOUTH.



③ PICTURE 3 IS A VIEW OF SUBSIDENCE HOLE 1 LOOKING SOUTH.



④ PICTURE 4 IS A VIEW OF SUBSIDENCE HOLE 2 ABOVE ADIT 4 LOOKING NORTH.

WORK DESCRIPTION

The goal is to backfill 3 subsidence holes and four adits and then revegetate. The Contractor will strip 1 foot of cover soil (34 cubic yards) from the borrow area and stockpile it immediately adjacent to the borrow area. The borrow area is adjacent to Adit 2 and consists of the nose of the slope. The borrow area will be staked by the Engineer prior to construction.

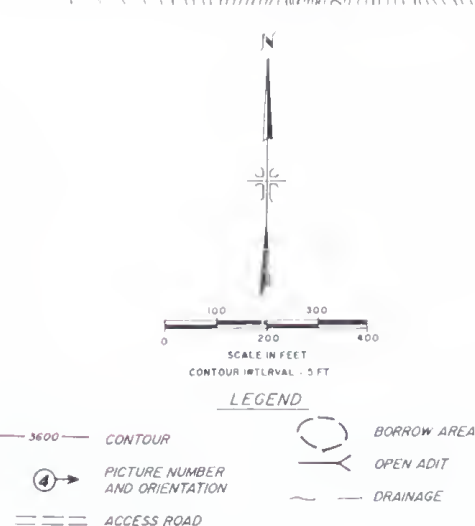
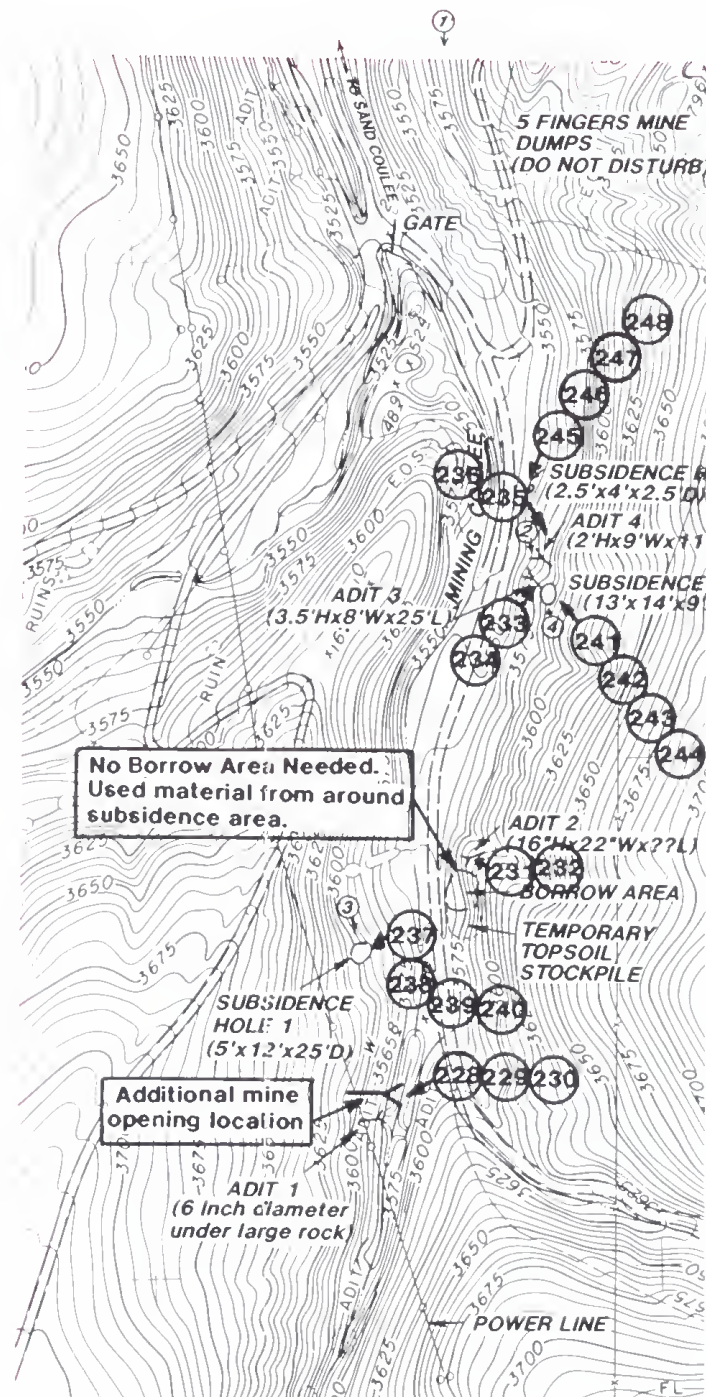
The Contractor will completely backfill each subsidence hole (5'x12'x25'D, 13'x14'x9'D, 2.5'x4'x2.5'D) and each of the adits (6" diameter x ? length, 16"x22"x ? length, 3.5'x8'x25' long, and 2'x4'x11'+ long). The total fill required for these seven openings is estimated at 170 cubic yards. Excavate the adit openings as necessary to allow for backfilling. Backfill the subsidence holes and adits with borrow material. The backfill material will extend a minimum of 10 feet into each adit from the adit openings. Place 6 inches of stockpiled cover soil over the backfilled adits, subsidences and the borrow area.

All disturbed areas (0.05 acres) will be revegetated. Broadcast seed (2.40 pounds) and fertilize (6.50 pounds) and then hand crimp the mulch (150 pounds) over the backfilled areas (subsidence holes and adits), the borrow area and access roads.

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located approximately 150 feet from the unnamed drainage through Mining Coulee which drains into the Sand Coulee drainage 800 feet away which in turn flows into Sand Coulee Creek 1100 feet further.



LANDOWNERS

Ernest and Marilyn Chartier
P.O. Box 96
Sand Coulee, MT 59472
406-736-5366

ARCHAEOLOGICAL NOTICE

THERE MAY BE ARCHAEOLOGICAL SITES IN THE VICINITY OF THE PROJECT SITES. ANY ARCHAEOLOGICAL MATERIALS NEAR THE CONSTRUCTION AREA WILL BE MARKED BY THE OWNER. AT NO TIME SHALL THESE ARCHAEOLOGICAL MATERIALS BE DISTURBED WITHOUT WRITTEN PERMISSION FROM THE OWNER.

HAZARD NOTICE

MANY POTENTIAL HAZARDS EXIST AT THESE MINE SITES. THE EXTENT OF THESE HAZARDS IS NOT FULLY KNOWN.

THE CONTRACTOR, SUBCONTRACTORS, AND THEIR EMPLOYEES WILL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS IN THE PERFORMANCE OF THE REQUIRED WORK. CONTRACTORS AND OTHER PERSONS WORKING AT THESE SITES SHALL BE FULLY RESPONSIBLE FOR APPRISING THEMSELVES OF ANY HAZARDOUS CONDITIONS WHICH MAY EXIST AND SHALL TAKE WHATEVER STEPS ARE NECESSARY TO INSURE THEIR SAFETY AND THE SAFETY OF OTHERS WHILE PERFORMING THEIR DUTIES.

NOTE

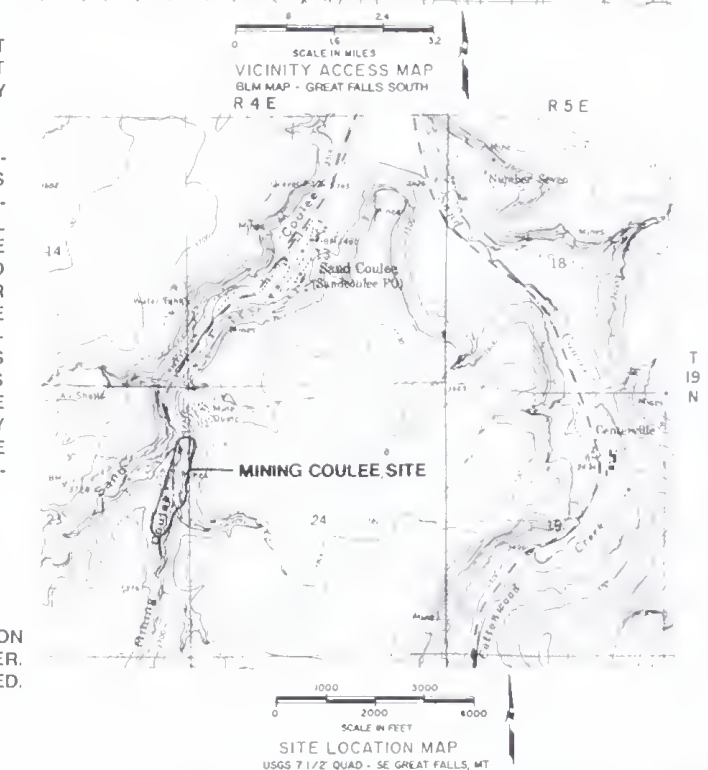
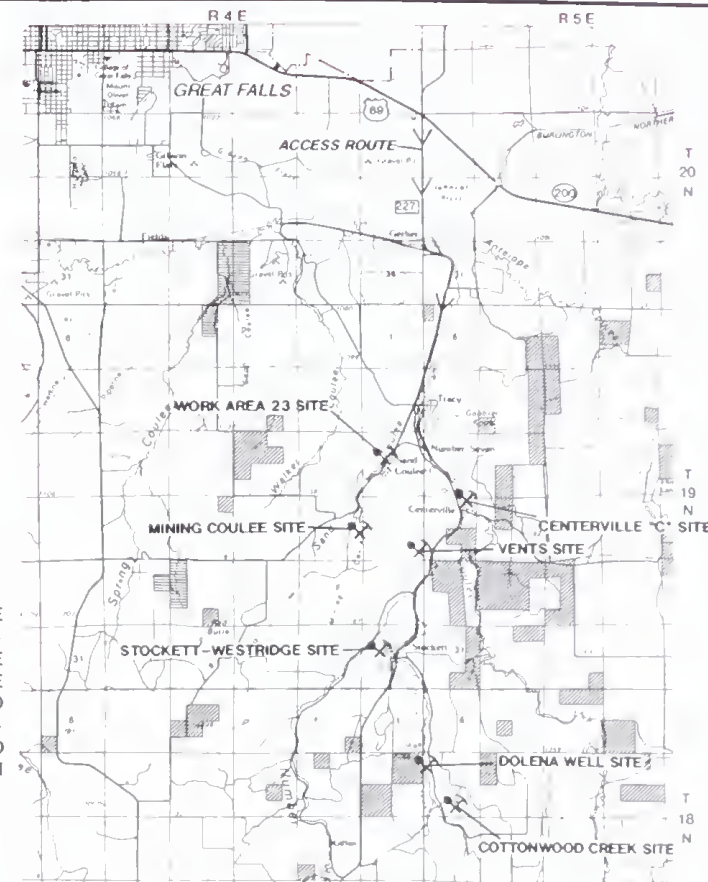
ACCESS ROUTES, WORK AREAS, AND CONSTRUCTION LIMITS WILL BE FIELD STAKED BY THE ENGINEER. VEHICLE TRAVEL WILL BE LIMITED TO ROUTES FLAGGED.

BASE MAP

Topography is of reconnaissance class and has not been field checked.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

11"x17" PRINTS ARE APPROXIMATELY 1/2 THE ORIGINAL SCALE



SITE PLAN AND GENERAL LAYOUT

MINING COULEE SITE

E 1/2 OF SECTION 23, T19N, R4E
CASCADE COUNTY, MONTANA

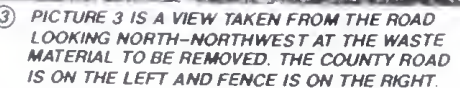
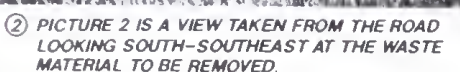
STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING

Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

DATE 9/3/1993
DRAWN BY RMS
APPROVED BY WCM
REVISIONS
NO DATE BY
SHEET NO 6 of 13

PHOTO INDEX &
AS BUILT DRAWING



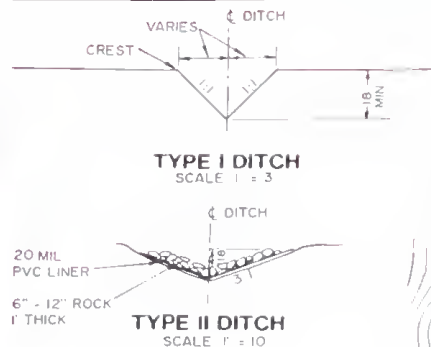
**STORM WATER POLLUTION PREVENTION
AND EROSION CONTROL PLAN
BEST MANAGEMENT PRACTICES
FOR STORM WATER CONTROL**

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located 800 feet from Belt Creek.

ARCHAEOLOGICAL NOTICE

There may be archaeological sites in the vicinity of this site. Any archaeological materials near the construction area will be marked by the Owner. At no time shall these archaeological materials be disturbed without the Owner's written permission.



WORK DESCRIPTION

The goal is to remove the iron-stained material in the ditch, minor ditch redesign, neutralize the area, and revegetate.

The Contractor will purchase fencing material and deliver it to Frank Ballatore, 44 Anaconda Road In Belt. The material will be enough to complete 400 feet of F-4M farm fence. Materials will include: 4 wood panel posts, 24 metal line posts, 1600 feet of barb wire, 26 wire stays, 2 pounds of fence staples, and 100 metal post fence clips.

All of the Iron-stained material in the ditch will be excavated (estimated at 392 cubic yards) to an average depth of 12 inches. In addition, 30 feet of the Type II ditch coming down the hillside on the southern end will also be removed (estimated at 9 cubic yards). This material will be taken to the landfill in Great Falls (managed by Waste Management, contact Lori Preston at phone 452-3143).

The lower 30 feet of current Type II ditch coming downhill from the railroad grade will be relocated. A curve will be put into the ditch. This will require 41 feet of new Type II ditch. The excavated material will be placed in the old ditch alignment. The remainder of the ditch will be reconstructed as Type I ditch with a minimum 18 inch depth with 1H:1V side slopes.

All disturbed areas above the crest line of the new constructed ditch (0.16 acres) will be revegetated. Broadcast seed (7.68 pounds), fertilizer (20.8 pounds), and then mulch shall be applied and hand crimped over the 0.16 acres (480 pounds). No straw bales dikes will be required at this site.

HAZARD NOTICE

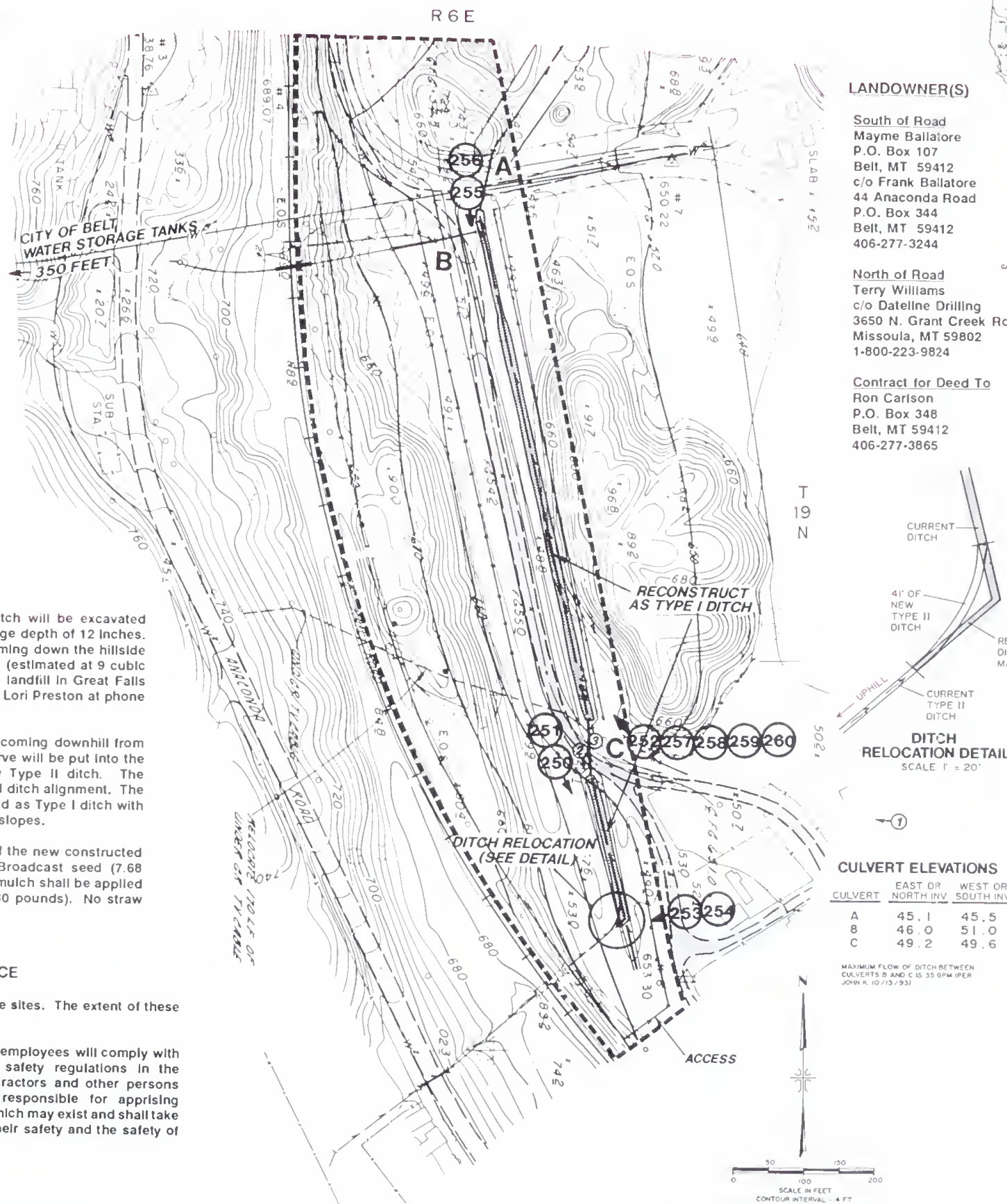
Many potential hazards exist at these mine sites. The extent of these hazards is not fully known.

The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

NOTE

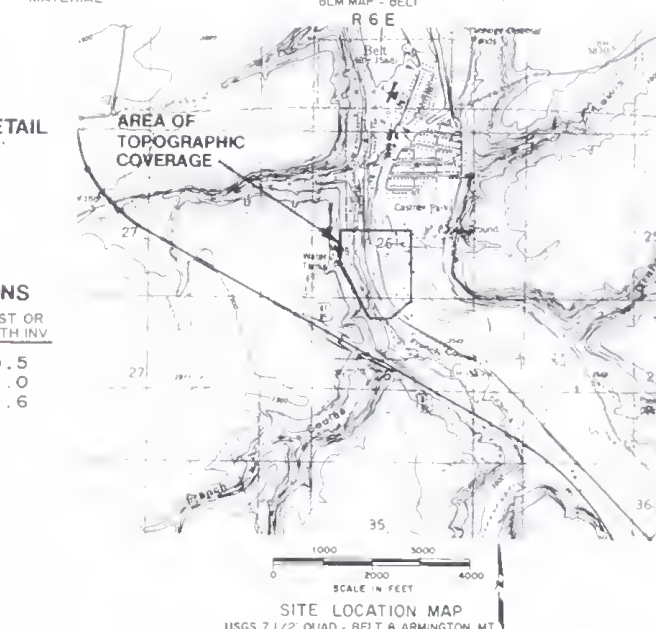
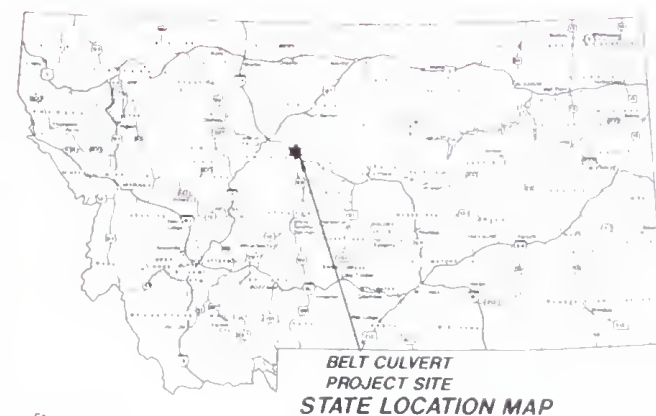
BASE MAP

Topography is of reconnaissance class and has not been field checked. Source is Associated Surveys map of 1983.



ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

11"x17" PRINTS ARE APPROXIMATELY 1/2 THE ORIGINAL SCALE



SITE PLAN AND GENERAL LAYOUT

BELT CULVERT SITE

CENTER OF SECTION 26, T19N, R6E
CASCADE COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONEO MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone: 406-259-2412

DATE	9/3/93		
DRAWN BY	RMS		
APPROVED BY	WCM		
REVISIONS			
NO	DATE	BY	
SHEET NO. 9 of 1			

**PHOTO INDEX &
AS BUILT DRAWING**



① PICTURE 1 IS TAKEN FROM THE HIGHWAY LOOKING SOUTHEAST AT THE ACCESS ROAD AND COAL SLACK PILES IN THE BOTTOM OF FRENCH COULEE.



② PICTURE 2 IS LOOKING NORTHWEST AT THE FENCE HEADING TOWARD THE OPEN ADIT DRIVEN IN THE ROCK FACE.

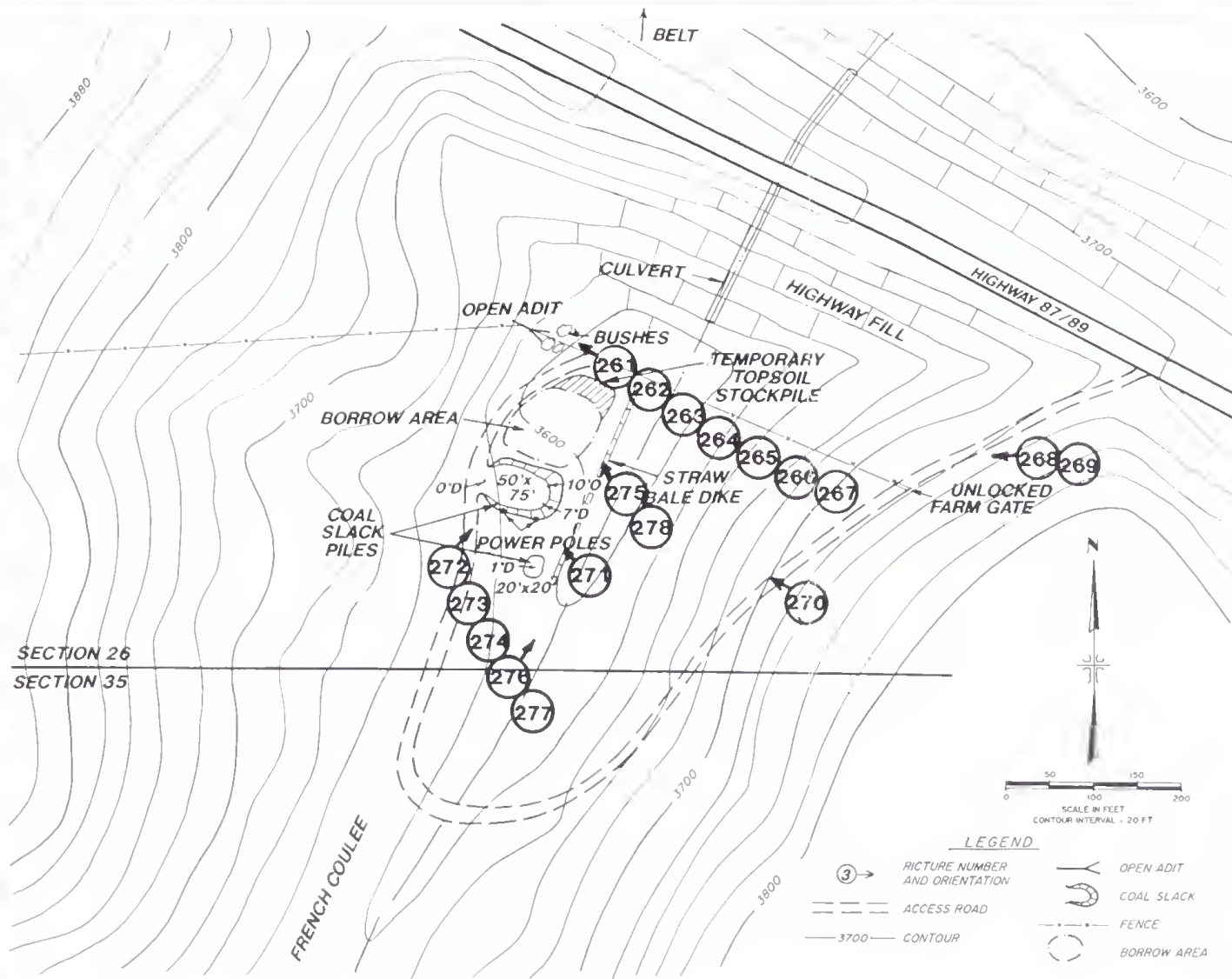


③ PICTURE 3 IS LOOKING SOUTHEAST TAKEN FROM THE INSIDE OF THE ADIT LOOKING OUT.

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located 60 to 160 feet from the unnamed drainage in French Coulee.



WORK DESCRIPTION

The goal of this project is to close 1 mine adit, amend acidic coal waste with lime and establish vegetative cover and dispose of debris.

The Contractor will backfill the 1 adit (3'8" H x 12' W at the entrance and 4'6" H x 9' W ten feet inside x 100' + long) to a minimum depth of 10 feet measured along the roof. Fill will consist of coal slack (initial 7 feet of fill-17 cubic yards) and material from the borrow area (7 cubic yards) for the last 3 feet of material going into the adit and exterior slope.

The 2 coal slack piles (#1: 50' x 75'; #2: 20' x 20') shall be neutralized. Lime shall be thoroughly mixed into the top 6 inches of the coal slack piles at the rate of 40 tons/acre/6" slice over the 0.10 acres (4.0 tons required).

The coal slack areas shall then be covered with 6 inches of material (81 cubic yards) from the borrow area (75' x 75' x 0.5' stripping depth) after stripping and temporarily stockpiling the borrow area topsoil (105 cubic yards to a depth of 6 inches) adjacent to the borrow area. After borrowing is complete, replace the topsoil over the borrow area.

All disturbed areas (0.10 acres of coal slack areas and adit entrance and 0.13 acres of borrow area = 0.23 acres) shall be broadcast seeded (11.0 pounds) and fertilized (29.9 pounds). Then the mulch shall be applied and crimped over the vegetated area (690 pounds). A straw bale dike (one row 250 feet in length-approximately 63 bales) will be placed end-to-end along the downhill side of the construction area. It will run from the small coal slack area to below the borrow area.

BASE MAP

Topography is of reconnaissance class and has not been field checked. Vertical datum is based on interpolation to the USGS 7 1/2 minute quadrangle shown on this sheet.

LANDOWNER(S)

Site In Section 26
George and Paula Drga
2238 Tiger Butte Road
Belt, MT 59412
406-277-3249

Access road through Sec. 35
Patricia Irvine
20940 Hubbard Cutoff Road
Aurora, OR 97002
503-678-2469

NOTE

ACCESS ROUTES, WORK AREAS, AND CONSTRUCTION LIMITS WILL BE FIELD STAKED BY THE ENGINEER. VEHICLE TRAVEL WILL BE LIMITED TO ROUTES FLAGGED.

ARCHAEOLOGICAL NOTICE

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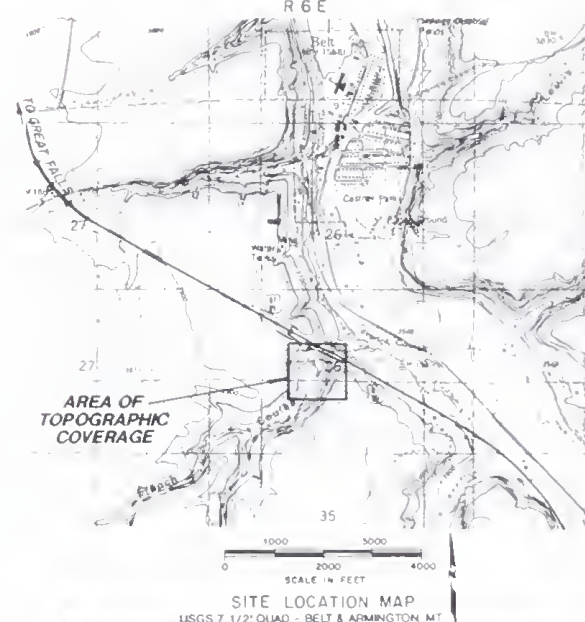
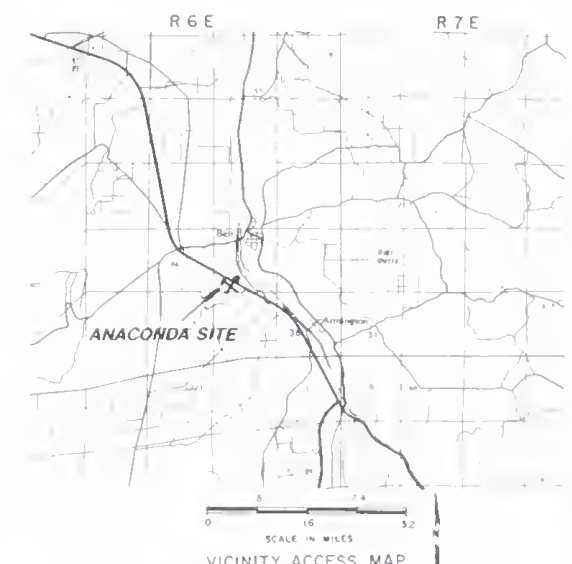
HAZARD NOTICE

MANY POTENTIAL HAZARDS EXIST AT THESE MINE SITES. THE EXTENT OF THESE HAZARDS IS NOT FULLY KNOWN.

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11"x17" PRINTS ARE APPROXIMATELY 1/4 THE ORIGINAL SCALE



SITE PLAN AND GENERAL LAYOUT

ANACONDA SITE

SW 1/4 OF SECTION 26, T19N, R6E
CASCADE COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone 406-259-2412

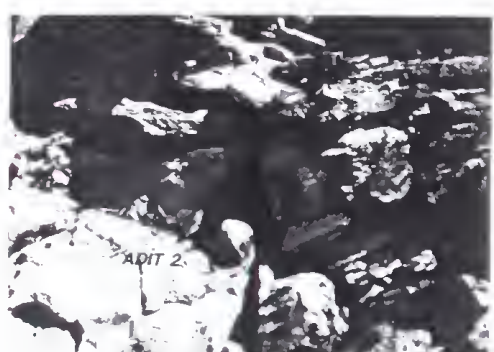
DATE 9/3/1993
DRAWN BY RMS
APPROVED BY WCM
REVISIONS
NO DATE BY
SHEET NO. 10 of 13



1 PICTURE 1 IS A HELICOPTER VIEW LOOKING EAST-NORTHEAST AT SEVERAL COAL SLACK PILES AND ADIT 1.



2 PICTURE 2 IS LOOKING EAST AT THE ROCK FACE CONTAINING ADIT 1.



3 PICTURE 3 IS LOOKING EAST AT THE OPENING OF ADIT 2.



4 PICTURE 4 IS LOOKING EAST AT THE OPENING OF ADIT 1.

BASE MAP

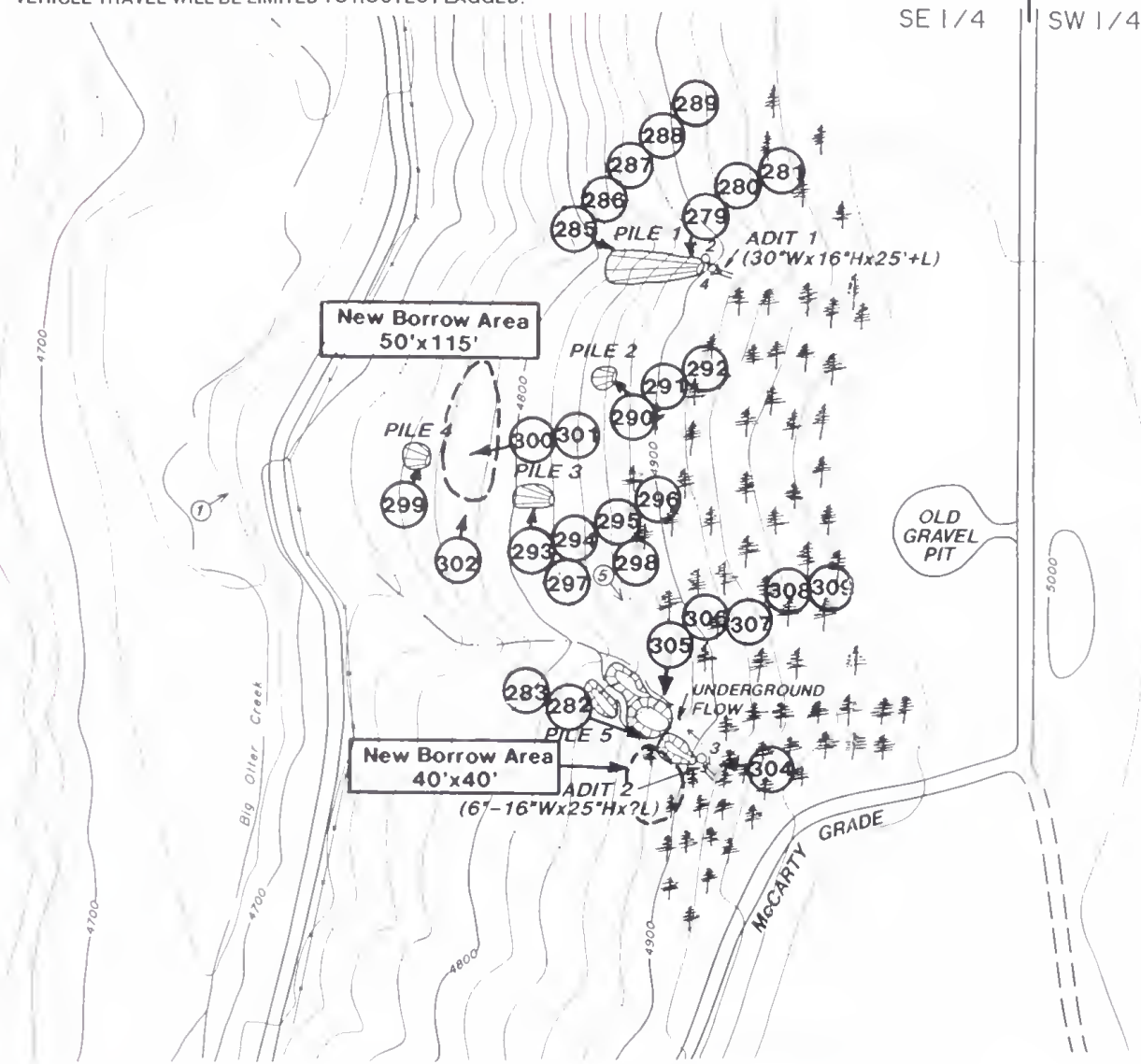
Topography is of reconnaissance class and has not been field checked. Vertical datum is based on Interpolation to the USGS 7 1/2 minute quadrangle shown on this sheet.



5 PICTURE 5 IS LOOKING SOUTHEAST AT THE COAL SLACK PILE DOWNHILL FROM ADIT 2.

NOTE

ACCESS ROUTES, WORK AREAS, AND CONSTRUCTION LIMITS WILL BE FIELD STAKED BY THE ENGINEER. VEHICLE TRAVEL WILL BE LIMITED TO ROUTES FLAGGED.



HAZARD NOTICE

Many potential hazards exist at these mine sites. The extent of these hazards is not fully known. The Contractor, subcontractors, and their employees will comply with all applicable local, state, and federal safety regulations in the performance of the required work. Contractors and other persons working at these sites shall be fully responsible for apprising themselves of any hazardous conditions which may exist and shall take whatever steps are necessary to insure their safety and the safety of others while performing their duties.

WORK DESCRIPTION

The goal is to backfill 2 adits, neutralize five coal slack piles, and then revegetate. One section of fence will need to be removed and replaced for access from the county road. The Contractor will backfill the 2 adits (#1: 30'w x 16'h x 25'+ long with #2: 6-16'w x 25'h x ? L) by hand with adjacent loose rock (2 cy in adit #1 & 1 cy in adit #2).

The 5 coal slack piles (#1: 25'-60'w x 200'L; #2: 30'x40'; #3: 30'x70'; #4: 40'x40'; #5: 40-50'w x 200'L) shall be neutralized. Lime shall be thoroughly mixed at the rate of 20 tons/acre/6" slice over the 0.63 acres (12.6 tons required). All coal slack areas shall then be covered with 6 inches of material (508 cubic yards) from the borrow area (96' x 96' x 1.5' stripping depth) after stripping and temporarily stockpiling the borrow area topsoil (171 cy). After borrowing, replace the topsoil.

All disturbed areas (0.85 acres) shall be drill seeded (20.40 pounds) and fertilized (110.50 pounds). Then the mulch shall be applied and crimped over the vegetated area (2,550 pounds).

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located approximately 700 feet from Big Otter Creek.

LANDOWNER(S)

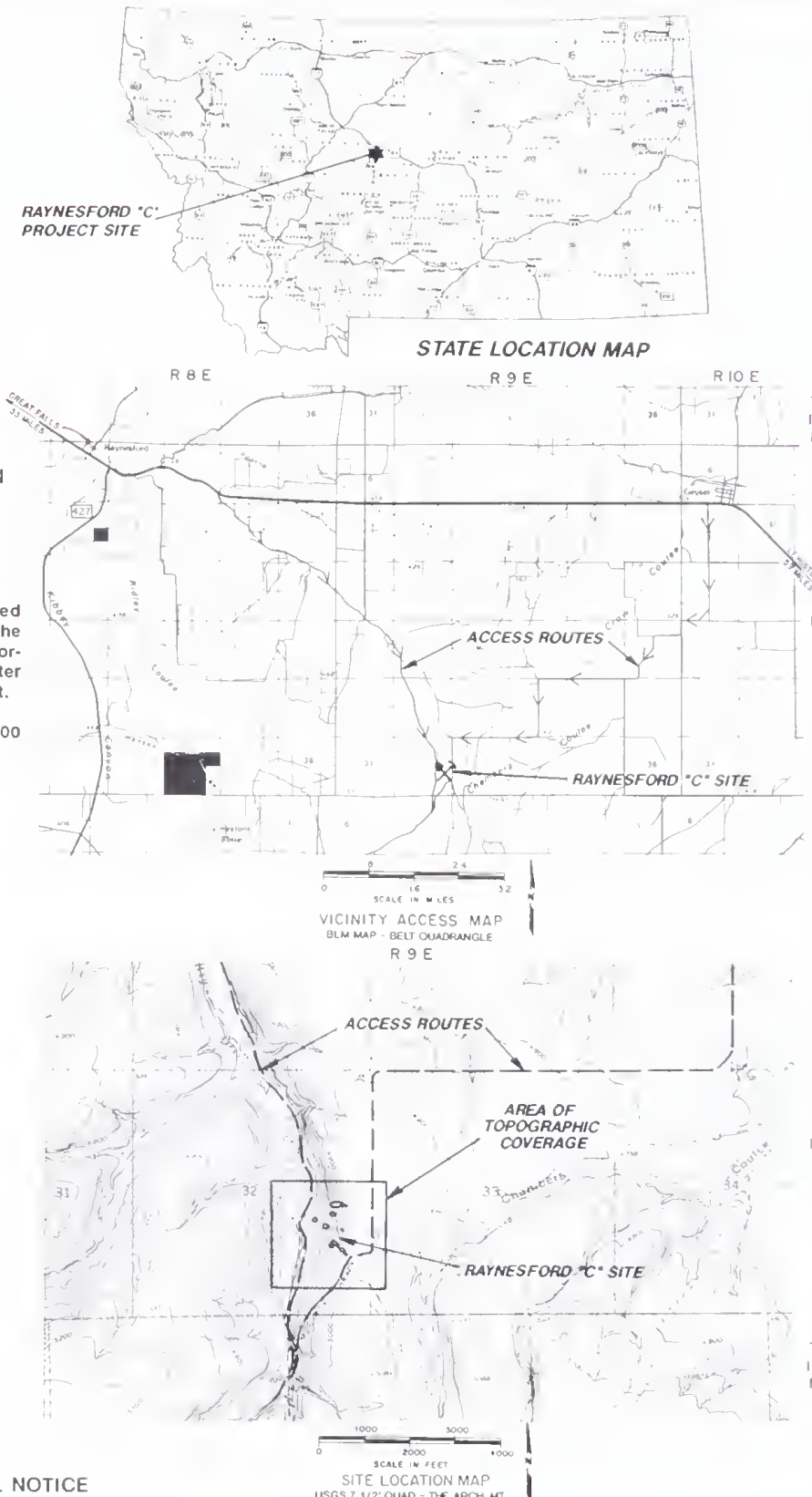
McKay Trust
c/o Mary McKay Joyner
425 Riverview Court
Great Falls, MT S9404
406-761-3378

ARCHAEOLOGICAL NOTICE

THERE MAY BE ARCHAEOLOGICAL SITES IN THE VICINITY OF THE PROJECT SITES. ANY ARCHAEOLOGICAL MATERIALS NEAR THE CONSTRUCTION AREA WILL BE MARKED BY THE OWNER. AT NO TIME SHALL THESE ARCHAEOLOGICAL MATERIALS BE DISTURBED WITHOUT WRITTEN PERMISSION FROM THE OWNER.

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

11"x17" PRINTS ARE APPROXIMATELY 1/2 THE ORIGINAL SCALE



STATE LOCATION MAP

VICINITY ACCESS MAP

SITE PLAN AND GENERAL LAYOUT

RAYNESFORD "C" SITE

SE 1/4 OF SECTION 32, T17N, R9E
JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONEED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING

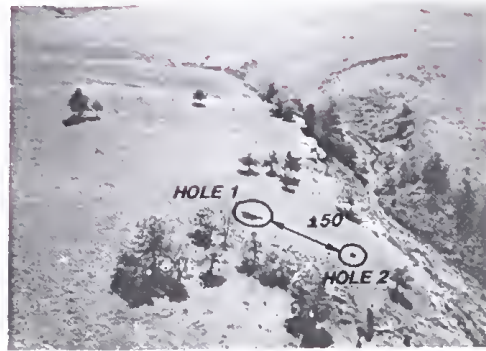
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone 406-259-2412

DATE 9/3/93	
DRAWN BY RMS	
APPROVED BY WCM	
REVISIONS	
NO.	DATE
SHEET NO 11 of 13	

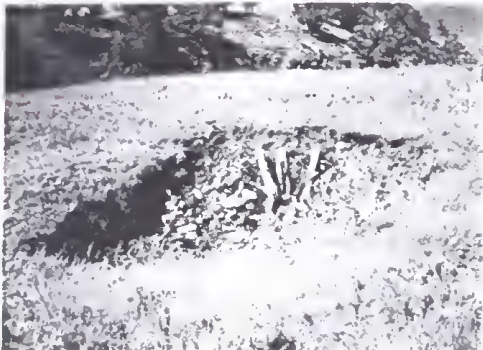
PHOTO INDEX &
AS BUILT DRAWING



① PICTURE 1 IS A HELICOPTER VIEW LOOKING EAST AT THE UNVEGETATED AREA.



③ PICTURE 3 IS A HELICOPTER VIEW LOOKING EAST AT THE TWO SUBSIEENCE HOLES.



② PICTURE 2 IS LOOKING SOUTH-SOUTHWEST AT THE SUBSIEENCE HOLE 1 CONTAINING THE AIR SHAFT.

WORK DESCRIPTION

The goal is to backfill 2 subsidence holes (one with an air shaft in the bottom of it) in Section 11 and revegetate this area and then revegetate a barren hillside previously reclaimed in Section 2.

The Contractor will strip and stockpile the topsoil from each subsidence hole (5 cy) and the 30'x30' borrow area (17 cy) immediately adjacent to each hole. The two subsidence holes will require 28 cubic yards of fill (4'x5'x2' deep and 14'x16'x3' deep with a 1½'x1½'x8' plus deep hole in the bottom). After backfilling with adjacent material, respread the topsoil over the backfilled subsidence area and the borrow area. All disturbed areas (0.03 acres) will be revegetated.

The barren hillside (115½'x165' area inside the fence plus 25'x30' area outside the fence) in Section 2 is to be revegetated (0.45 acres).

The two subsidence holes and borrow area and barren hillside will be broadcast seeded (23.04 pounds) and fertilized (62.4 pounds). Then hand spread and hand crimp the mulch (1,440 pounds).

STORM WATER POLLUTION PREVENTION AND EROSION CONTROL PLAN BEST MANAGEMENT PRACTICES FOR STORM WATER CONTROL

The construction activity is described under the Work Description. The location and other Storm Water Information is found in the Storm Water Table on the Site Plan Cover Sheet.

This site is located approximately 100 feet (barren hillside) to 800 feet (subsidence holes) from the unnamed dry drainageway in Coal Mine Coulee which drains into Running Wolf Creek 4,500 feet away which in turn flows into Wolf Creek another 5,000 feet further.

HAZARD NOTICE

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THE CONTRACTOR, SUBCONTRACTORS, AND THEIR EMPLOYEES WILL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS IN THE PERFORMANCE OF THE REQUIRED WORK. CONTRACTORS AND OTHER PERSONS WORKING AT THESE SITES SHALL BE FULLY RESPONSIBLE FOR APPRISING THEMSELVES OF ANY HAZARDOUS CONDITIONS WHICH MAY EXIST AND SHALL TAKE WHATEVER STEPS ARE NECESSARY TO INSURE THEIR SAFETY AND THE SAFETY OF OTHERS WHILE PERFORMING THEIR DUTIES.

ARCHAEOLOGICAL NOTICE

THERE MAY BE ARCHAEOLOGICAL SITES IN THE VICINITY OF THE PROJECT SITES. ANY ARCHAEOLOGICAL MATERIALS NEAR THE CONSTRUCTION AREA WILL BE MARKED BY THE OWNER. AT NO TIME SHALL THESE ARCHAEOLOGICAL MATERIALS BE DISTURBED WITHOUT WRITTEN PERMISSION FROM THE OWNER.

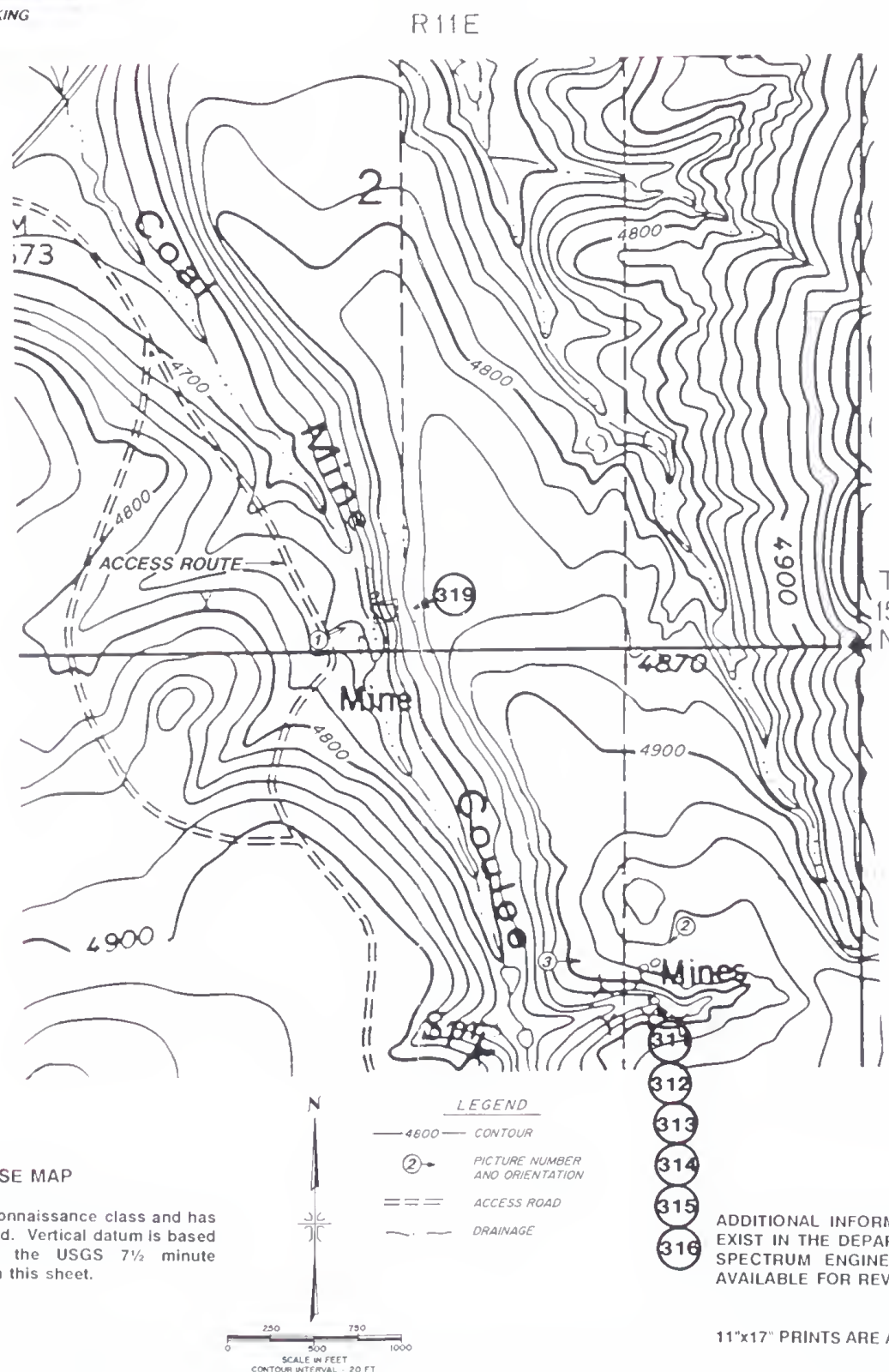
NOTE

ACCESS ROUTES, WORK AREAS, AND CONSTRUCTION LIMITS WILL BE FIELD STAKED BY THE ENGINEER. VEHICLE TRAVEL WILL BE LIMITED TO ROUTES FLAGGED.

LANDOWNER(S)

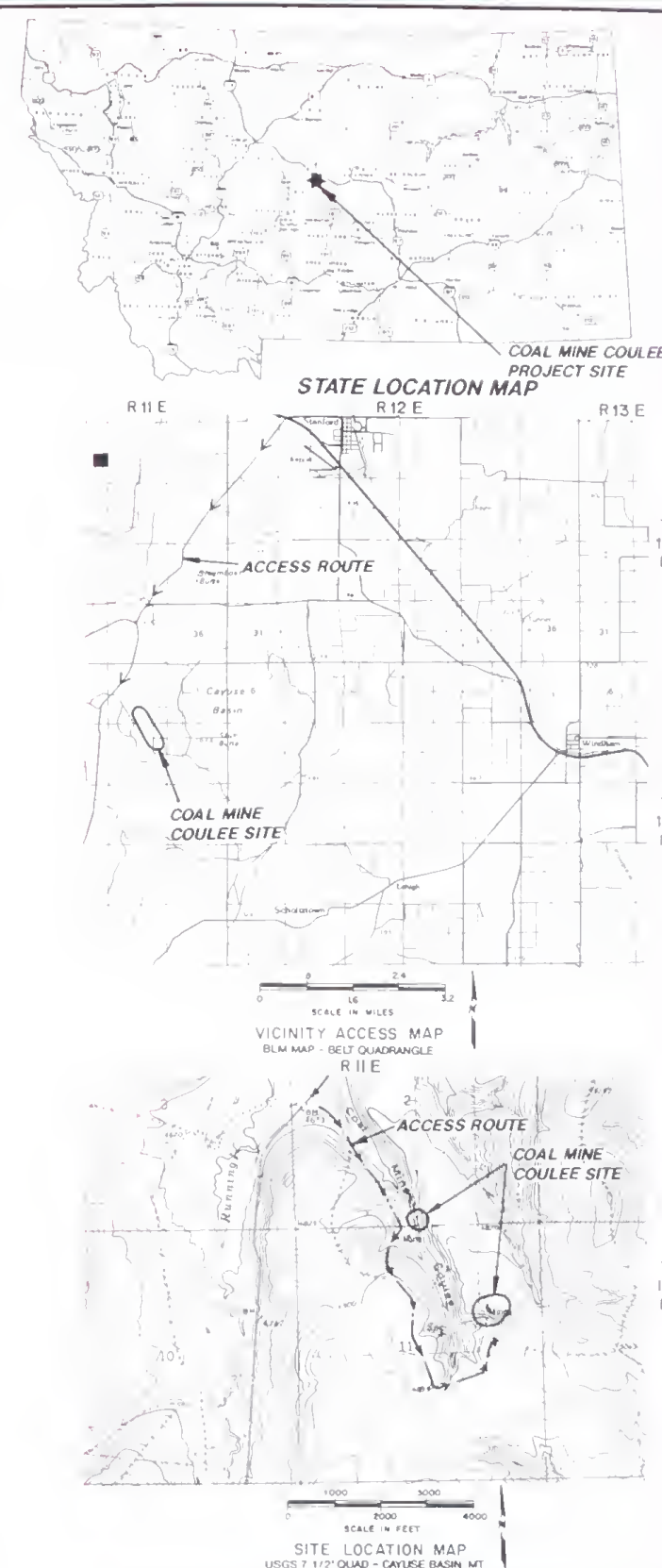
Hughes Newford Co.
Mrs. G. Curtis (Ruth) Hughes
P.O. Box 558
Stanford, MT 59479
406-566-2650

John and Betty Sampsel
Ranch Managers
(daughter & son-in-law)
406-566-2700



BASE MAP

Topography is of reconnaissance class and has not been field checked. Vertical datum is based on Interpolation to the USGS 7½ minute quadrangle shown on this sheet.



SITE PLAN AND GENERAL LAYOUT

COAL MINE COULEE SITE S 1/2 OF SEC. 2, & N 1/2 OF SEC. 11, T15N, R11E JUDITH BASIN COUNTY, MONTANA

STATE OF MONTANA, DEPARTMENT OF STATE LANDS
ABANDONED MINE RECLAMATION BUREAU, RECLAMATION DIVISION
1625 Eleventh Avenue, Helena, Montana 59620

SPECTRUM ENGINEERING
Mining and Civil Engineers
1413 4th Avenue North
Billings, Montana 59101
Phone 406-259-2412

DATE	9/3/93		
DRAWN BY	RMS		
APPROVED BY	WCM		
REVISIONS			
NO	DATE	BY	
SHEET NO. 12 of 1			

SHEET NO. 12 of 13

ADDITIONAL INFORMATION PERTAINING TO THIS SITE MAY EXIST IN THE DEPARTMENT OF STATE LANDS' FILES OR AT SPECTRUM ENGINEERING'S OFFICE. THIS MATERIAL IS AVAILABLE FOR REVIEW BY ANY INTERESTED PARTY.

11"x17" PRINTS ARE APPROXIMATELY ½ THE ORIGINAL SCALE

PHOTO INDEX &
AS BUILT DRAWING

11"x17" PRINTS ARE APPROXIMATELY 1/2 THE ORIGINAL SCALE

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
COTTONWOOD CREEK		
1	06-17-93	Pre-construction view looking south at subsidence on the hillside.
2	12-27-93	Pre-construction view of subsidence hole.
3	12-31-93	Rock placed in subsidence hole.
4	02-15-94	Subsidence hole backfilled.
5	02-15-94	Subsidence hole revegetated.
DOLENA WELL		
6	06-17-93	Pre-construction view looking east-northeast at house and natural spring/pond.
7	12-13-93	Pre-construction view of Dolena Well site.
8	12-15-93	Mixing grout for six inch casing.
9	12-15-93	Pumping grout around six inch casing.
10	12-15-93	Drill rig set-up looking north.
11	12-29-93	Four inch screen casing.
12	12-29-93	Installing four inch screen casing.
13	01-13-94	Digging in water line.
14	01-13-94	Copper to PVC transition.
15	01-13-94	Drain at frost free yard hydrant.
16	02-21-94	Forty gallon electric hot water tank.
17	02-21-94	Sixty-two gallon pressure tank with electric boxes.
18	02-21-94	Settlement around casing.
19	02-21-94	Settlement around casing.
20	02-15-94	Finished view inside yard.
21	02-15-94	Finished view from well on road.

THE HORIZONTAL DISTANCE FROM THE CENTER OF THE EARTH TO THE SURFACE

Latitude	Distance	Latitude	Distance
0°	3956.0	45°	3956.0
1°	3956.0	46°	3956.0
2°	3956.0	47°	3956.0
3°	3956.0	48°	3956.0
4°	3956.0	49°	3956.0
5°	3956.0	50°	3956.0
6°	3956.0	51°	3956.0
7°	3956.0	52°	3956.0
8°	3956.0	53°	3956.0
9°	3956.0	54°	3956.0
10°	3956.0	55°	3956.0
11°	3956.0	56°	3956.0
12°	3956.0	57°	3956.0
13°	3956.0	58°	3956.0
14°	3956.0	59°	3956.0
15°	3956.0	60°	3956.0
16°	3956.0	61°	3956.0
17°	3956.0	62°	3956.0
18°	3956.0	63°	3956.0
19°	3956.0	64°	3956.0
20°	3956.0	65°	3956.0
21°	3956.0	66°	3956.0
22°	3956.0	67°	3956.0
23°	3956.0	68°	3956.0
24°	3956.0	69°	3956.0
25°	3956.0	70°	3956.0
26°	3956.0	71°	3956.0
27°	3956.0	72°	3956.0
28°	3956.0	73°	3956.0
29°	3956.0	74°	3956.0
30°	3956.0	75°	3956.0
31°	3956.0	76°	3956.0
32°	3956.0	77°	3956.0
33°	3956.0	78°	3956.0
34°	3956.0	79°	3956.0
35°	3956.0	80°	3956.0
36°	3956.0	81°	3956.0
37°	3956.0	82°	3956.0
38°	3956.0	83°	3956.0
39°	3956.0	84°	3956.0
40°	3956.0	85°	3956.0
41°	3956.0	86°	3956.0
42°	3956.0	87°	3956.0
43°	3956.0	88°	3956.0
44°	3956.0	89°	3956.0
45°	3956.0	90°	3956.0

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
STOCKETT-WESTRIDGE		
22	01-04-94	Cat 140 A blade.
23	12-20-93	Cat 627 scraper.
24	02-28-94	Cat 966 D loader.
25	12-20-93	Cat D6-C dozer.
26	12-30-93	Cat D8-H dozer with ripper.
27	12-22-93	John Deere 450D bulldozer/backhoe.
28	12-30-93	Pug mill set-up.
29	12-30-93	Lime hopper and conveyer.
30	03-10-94	Eight foot crimper.
31	12-22-93	Moving straw bales with cat.
32	02-18-94	Cat D-6 dozer with thirty inch disk.
33	03-10-94	Case 995 tractor with a six feet Brillion drill.
34	03-11-94	Load of straw mulch.
35	06-17-93	Pre-construction view looking southeast at hillside from the helicopter.
36	12-22-93	Pre-construction view of the site.
37	06-17-93	Pre-construction view looking at barren lower slope.
38	06-17-93	Pre-construction view looking north at barren middle slope.
39	06-17-93	Pre-construction view looking northeast at barren upper slope.
40	12-20-93	Stakes on north base line.
41	12-20-93	Stakes on north base line.
42	12-27-93	Cat 627 scraper removing cover soil.
43	12-27-93	Cover soil removed.

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
44	12-27-93	Cover soil stockpile.
45	01-22-94	Excavation cover soil station 1 + 00 through 1 + 55.
46	12-29-93	Cover soil removed from bottom half.
47	12-31-94	Stockpiling waste material.
48	01-05-94	Waste soil removed from bottom half south to north.
49	12-28-93	Installing straw bales on south side.
50	02-18-94	Spreading lime.
51	01-31-94	Equipment working on waste soil south end station 1 + 00.
52	02-01-94	627 scraper hauling waste soil from station 0 + 00.
53	02-02-94	South end of station 0 + 00 excavated on top of debris.
54	01-24-94	Equipment working waste soil.
55	01-26-94	Filling in limed waste soil at station 1 + 00 through 1 + 55.
56	02-18-94	Spreading cover soil.
57	03-07-94	Spreading imported cover soil on site.
58	03-09-94	Imported cover soil place on work area.
59	03-09-94	Cat D-6 with disk on imported cover soil.
60	03-09-94	Leveling imported cover soil with grader.
61	03-10-94	Drill seeding near top of site.
62	12-21-93	Hauling load of straw to site.
63	03-10-94	Placing erosion control blanket.
64	03-10-94	Rip rap south end of terrace.
65	03-10-94	Rip rap south end of terrace.
66	03-11-94	Spreading mulch on upper section with erosion blanket in place.
67	03-14-94	Tractor and crimper working.

THE HISTORY OF THE UNITED STATES OF AMERICA

DATE	AMOUNT	DESCRIPTION
1877	100.00	First year's salary
1878	100.00	Second year's salary
1879	100.00	Third year's salary
1880	100.00	Fourth year's salary
1881	100.00	Fifth year's salary
1882	100.00	Sixth year's salary
1883	100.00	Seventh year's salary
1884	100.00	Eighth year's salary
1885	100.00	Ninth year's salary
1886	100.00	Tenth year's salary
1887	100.00	Eleventh year's salary
1888	100.00	Twelfth year's salary
1889	100.00	Thirteenth year's salary
1890	100.00	Fourteenth year's salary
1891	100.00	Fifteenth year's salary
1892	100.00	Sixteenth year's salary
1893	100.00	Seventeenth year's salary
1894	100.00	Eighteenth year's salary
1895	100.00	Nineteenth year's salary
1896	100.00	Twentieth year's salary
1897	100.00	Twenty-first year's salary
1898	100.00	Twenty-second year's salary
1899	100.00	Twenty-third year's salary
1900	100.00	Twenty-fourth year's salary
1901	100.00	Twenty-fifth year's salary
1902	100.00	Twenty-sixth year's salary
1903	100.00	Twenty-seventh year's salary
1904	100.00	Twenty-eighth year's salary
1905	100.00	Twenty-ninth year's salary
1906	100.00	Thirtieth year's salary
1907	100.00	Thirty-first year's salary
1908	100.00	Thirty-second year's salary
1909	100.00	Thirty-third year's salary
1910	100.00	Thirty-fourth year's salary
1911	100.00	Thirty-fifth year's salary
1912	100.00	Thirty-sixth year's salary
1913	100.00	Thirty-seventh year's salary
1914	100.00	Thirty-eighth year's salary
1915	100.00	Thirty-ninth year's salary
1916	100.00	Fortieth year's salary
1917	100.00	Forty-first year's salary
1918	100.00	Forty-second year's salary
1919	100.00	Forty-third year's salary
1920	100.00	Forty-fourth year's salary
1921	100.00	Forty-fifth year's salary
1922	100.00	Forty-sixth year's salary
1923	100.00	Forty-seventh year's salary
1924	100.00	Forty-eighth year's salary
1925	100.00	Forty-ninth year's salary
1926	100.00	Fiftieth year's salary
1927	100.00	Fifty-first year's salary
1928	100.00	Fifty-second year's salary
1929	100.00	Fifty-third year's salary
1930	100.00	Fifty-fourth year's salary
1931	100.00	Fifty-fifth year's salary
1932	100.00	Fifty-sixth year's salary
1933	100.00	Fifty-seventh year's salary
1934	100.00	Fifty-eighth year's salary
1935	100.00	Fifty-ninth year's salary
1936	100.00	Sixtieth year's salary
1937	100.00	Sixty-first year's salary
1938	100.00	Sixty-second year's salary
1939	100.00	Sixty-third year's salary
1940	100.00	Sixty-fourth year's salary
1941	100.00	Sixty-fifth year's salary
1942	100.00	Sixty-sixth year's salary
1943	100.00	Sixty-seventh year's salary
1944	100.00	Sixty-eighth year's salary
1945	100.00	Sixty-ninth year's salary
1946	100.00	Seventieth year's salary
1947	100.00	Seventy-first year's salary
1948	100.00	Seventy-second year's salary
1949	100.00	Seventy-third year's salary
1950	100.00	Seventy-fourth year's salary
1951	100.00	Seventy-fifth year's salary
1952	100.00	Seventy-sixth year's salary
1953	100.00	Seventy-seventh year's salary
1954	100.00	Seventy-eighth year's salary
1955	100.00	Seventy-ninth year's salary
1956	100.00	Eightieth year's salary
1957	100.00	Eighty-first year's salary
1958	100.00	Eighty-second year's salary
1959	100.00	Eighty-third year's salary
1960	100.00	Eighty-fourth year's salary
1961	100.00	Eighty-fifth year's salary
1962	100.00	Eighty-sixth year's salary
1963	100.00	Eighty-seventh year's salary
1964	100.00	Eighty-eighth year's salary
1965	100.00	Eighty-ninth year's salary
1966	100.00	Ninetieth year's salary
1967	100.00	Ninety-first year's salary
1968	100.00	Ninety-second year's salary
1969	100.00	Ninety-third year's salary
1970	100.00	Ninety-fourth year's salary
1971	100.00	Ninety-fifth year's salary
1972	100.00	Ninety-sixth year's salary
1973	100.00	Ninety-seventh year's salary
1974	100.00	Ninety-eighth year's salary
1975	100.00	Ninety-ninth year's salary
1976	100.00	Hundredth year's salary

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
68	03-14-94	Mulch spread and crimped on site.
69	03-11-94	Spreading mulch on upper section.
70	03-15-94	Mulch spread and crimped on site.
71	03-15-94	Mulch spread and crimped on site.
72	02-15-94	Replacing the fence.
73	03-15-94	Mulch spread and crimped on site.
74	03-15-94	Mulch spread and crimped on site.
75	03-14-94	Mulch spread and crimped on portion of site.
76	02-15-94	Finished site viewed from west road.
77	03-15-94	Finished site viewed from west road.
78	01-05-94	Waste soil removed bottom half of project.
79	01-05-94	Waste soil removed bottom half of project.
80	01-14-94	D-8 excavation top half of waste soil.
81	01-20-94	Limed waste soil at station 2 + 25.
82	01-22-94	D-8 assisting mix lime at Pug mill.
83	01-05-94	Pug mill operation.
84	01-31-94	Feeding Pug mill with 980 loader.
85	01-05-94	Waste material mixed with lime from Pug mill.
86	01-05-94	Pug mill in operation.
87	01-26-94	Hauling off limed waste soil at Pug mill.
88	12-31-93	D-8 dozer working waste material.
89	02-28-94	First borrow topsoil area eight inches then gravel.
90	02-03-94	Assisting lime truck into site.
91	02-03-94	Assisting lime truck into site.

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
92	02-03-94	Assisting lime truck into site.
93	01-04-94	Lime from the Indian Creek kiln, Townsend.
94	12-27-93	Excavating the cover soil between terraces 3 and 4.
95	01-22-94	Equipment working waste soil.
96	01-26-94	Equipment working waste soil at station 1 + 00 through 1 + 55.
97	01-26-94	The excavated area between station 1 + 00 and 1 + 55.
98	02-02-94	Depth at forty-five feet south of station 0 + 00.
99	12-29-93	Cross section of bottom half of cover soil.
100	02-18-94	Installing new upper terrace.
101	03-11-94	Spreading straw mulch.
102	03-14-94	Spreading straw bales and straw on upper section of the project.
103	03-14-94	Driving stakes in straw bales.
104	12-21-93	Straw bales on the east side of the project.
105	12-22-93	Excavating of straw bale placement with JD 450-D backhoe.
106	12-27-93	Straw bales installed with stakes.
107	12-22-93	Straw bales on south side of the project.
108	03-02-94	South end of terrace.
109	06-17-93	Pre-construction looking at ditch blowout and sediment deposit in field.
110	03-14-94	Imported cover soil in wheat field.
111	02-14-94	Pre-construction view of location where ditch over-flowed into field.
112	02-14-94	Excavated material from the ditch that over-flowed into the field.
113	01-14-94	Pre-construction of rip rapped channel.
114	01-14-94	Pre-construction of rip rapped channel.

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
115	03-14-94	Repaired rip rap ditch.
116	01-14-94	Pre-construction view of ditch failure area.
117	01-14-94	Pre-construction view of the ditch area to be regraded.
118	03-10-94	Regraded ditch looking south.
119	03-10-94	Regraded ditch looking north.
120	03-10-94	Backhoe and operator doing rip rap repair.
121	03-14-94	Repaired rip rap ditch.
122	12-28-93	Waste material.
123	12-28-93	Waste material.
124	01-19-94	Test hole number 1.
125	01-19-94	Test hole number 2.
126	01-19-94	Test hole number 3.
127	01-19-94	Test hole number 4.
128	01-19-94	Test hole number 5.
129	01-19-94	Test hole number 6.
130	01-19-94	Test hole number 7.
131	01-19-94	Test hole number 8.
132	01-19-94	Test hole number 9.
133	01-19-94	Test hole number 10.
134	01-19-94	Test hole number 11.
135	01-19-94	Test hole number 12.
136	01-19-94	Test hole number 13.
VENTS		
137	06-17-93	Looking west at coal slack (with vents above it).

1991-1992 Seasonal Report

Project Name	Start Date	End Date	Days
Project A	01-01-91	01-31-91	31
Project B	02-01-91	02-28-91	28
Project C	03-01-91	03-31-91	31
Project D	04-01-91	04-30-91	30
Project E	05-01-91	05-31-91	31
Project F	06-01-91	06-30-91	30
Project G	07-01-91	07-31-91	31
Project H	08-01-91	08-31-91	31
Project I	09-01-91	09-30-91	30
Project J	10-01-91	10-31-91	31
Project K	11-01-91	11-30-91	30
Project L	12-01-91	12-31-91	31
Project M	01-01-92	01-31-92	31
Project N	02-01-92	02-28-92	28
Project O	03-01-92	03-31-92	31
Project P	04-01-92	04-30-92	30
Project Q	05-01-92	05-31-92	31
Project R	06-01-92	06-30-92	30
Project S	07-01-92	07-31-92	31
Project T	08-01-92	08-31-92	31
Project U	09-01-92	09-30-92	30
Project V	10-01-92	10-31-92	31
Project W	11-01-92	11-30-92	30
Project X	12-01-92	12-31-92	31

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
138	06-17-93	Looking east (downhill) at adit trench and coal slack pile.
139	12-31-93	Applying lime on coal slack pile.
140	01-03-94	Reclaimed coal slack pile.
141	12-15-93	Pre-construction view of 5 vents.
142	12-31-93	Concrete placed within vents.
143	12-28-93	4 sealed vents within the adit area.
144	12-28-93	1 sealed vent adjacent to the rock.
145	12-27-93	Pre-construction view of the extra vent found.
146	12-28-93	1 vent by rock close up.
147	12-31-93	Mixing concrete.
148	12-31-93	Concrete in vents.

CENTERVILLE C

149	03-18-94	Pre-construction view of limestone trench area.
150	03-22-94	Seeding trench area.
151	03-23-94	Crimping trench area.
152	03-23-94	Trench area with straw dike complete.
153	03-18-94	Pre-construction view looking NW at the site.
154	03-22-94	Seeding large area at Centerville C.
155	03-23-94	Unloading straw bales at site.
156	03-23-94	View looking south at large area completed.
157	03-23-94	View looking north at large area completed.
158	03-23-94	View looking north at large area slope.
159	03-18-94	Pre-construction view of cell #3 area.
160	03-18-94	Pre-construction view of cell #2 area.

THE HISTORY OF THE

CHAPTER	PAGE	DESCRIPTION
1	1	THE BEGINNING
2	2	THE FIRST YEAR
3	3	THE SECOND YEAR
4	4	THE THIRD YEAR
5	5	THE FOURTH YEAR
6	6	THE FIFTH YEAR
7	7	THE SIXTH YEAR
8	8	THE SEVENTH YEAR
9	9	THE EIGHTH YEAR
10	10	THE NINTH YEAR
11	11	THE TENTH YEAR
12	12	THE ELEVENTH YEAR
13	13	THE TWELFTH YEAR
14	14	THE THIRTEENTH YEAR
15	15	THE FOURTEENTH YEAR
16	16	THE FIFTEENTH YEAR
17	17	THE SIXTEENTH YEAR
18	18	THE SEVENTEENTH YEAR
19	19	THE EIGHTEENTH YEAR
20	20	THE NINETEENTH YEAR
21	21	THE TWENTIETH YEAR
22	22	THE TWENTY-FIRST YEAR
23	23	THE TWENTY-SECOND YEAR
24	24	THE TWENTY-THIRD YEAR
25	25	THE TWENTY-FOURTH YEAR
26	26	THE TWENTY-FIFTH YEAR
27	27	THE TWENTY-SIXTH YEAR
28	28	THE TWENTY-SEVENTH YEAR
29	29	THE TWENTY-EIGHTH YEAR
30	30	THE TWENTY-NINTH YEAR
31	31	THE THIRTIETH YEAR
32	32	THE THIRTY-FIRST YEAR
33	33	THE THIRTY-SECOND YEAR
34	34	THE THIRTY-THIRD YEAR
35	35	THE THIRTY-FOURTH YEAR
36	36	THE THIRTY-FIFTH YEAR
37	37	THE THIRTY-SIXTH YEAR
38	38	THE THIRTY-SEVENTH YEAR
39	39	THE THIRTY-EIGHTH YEAR
40	40	THE THIRTY-NINTH YEAR
41	41	THE FORTIETH YEAR
42	42	THE FORTY-FIRST YEAR
43	43	THE FORTY-SECOND YEAR
44	44	THE FORTY-THIRD YEAR
45	45	THE FORTY-FOURTH YEAR
46	46	THE FORTY-FIFTH YEAR
47	47	THE FORTY-SIXTH YEAR
48	48	THE FORTY-SEVENTH YEAR
49	49	THE FORTY-EIGHTH YEAR
50	50	THE FORTY-NINTH YEAR
51	51	THE FIFTIETH YEAR
52	52	THE FIFTY-FIRST YEAR
53	53	THE FIFTY-SECOND YEAR
54	54	THE FIFTY-THIRD YEAR
55	55	THE FIFTY-FOURTH YEAR
56	56	THE FIFTY-FIFTH YEAR
57	57	THE FIFTY-SIXTH YEAR
58	58	THE FIFTY-SEVENTH YEAR
59	59	THE FIFTY-EIGHTH YEAR
60	60	THE FIFTY-NINTH YEAR
61	61	THE SIXTIETH YEAR
62	62	THE SIXTY-FIRST YEAR
63	63	THE SIXTY-SECOND YEAR
64	64	THE SIXTY-THIRD YEAR
65	65	THE SIXTY-FOURTH YEAR
66	66	THE SIXTY-FIFTH YEAR
67	67	THE SIXTY-SIXTH YEAR
68	68	THE SIXTY-SEVENTH YEAR
69	69	THE SIXTY-EIGHTH YEAR
70	70	THE SIXTY-NINTH YEAR
71	71	THE SEVENTIETH YEAR
72	72	THE SEVENTY-FIRST YEAR
73	73	THE SEVENTY-SECOND YEAR
74	74	THE SEVENTY-THIRD YEAR
75	75	THE SEVENTY-FOURTH YEAR
76	76	THE SEVENTY-FIFTH YEAR
77	77	THE SEVENTY-SIXTH YEAR
78	78	THE SEVENTY-SEVENTH YEAR
79	79	THE SEVENTY-EIGHTH YEAR
80	80	THE SEVENTY-NINTH YEAR
81	81	THE EIGHTIETH YEAR
82	82	THE EIGHTY-FIRST YEAR
83	83	THE EIGHTY-SECOND YEAR
84	84	THE EIGHTY-THIRD YEAR
85	85	THE EIGHTY-FOURTH YEAR
86	86	THE EIGHTY-FIFTH YEAR
87	87	THE EIGHTY-SIXTH YEAR
88	88	THE EIGHTY-SEVENTH YEAR
89	89	THE EIGHTY-EIGHTH YEAR
90	90	THE EIGHTY-NINTH YEAR
91	91	THE NINETYTH YEAR
92	92	THE NINETY-FIRST YEAR
93	93	THE NINETY-SECOND YEAR
94	94	THE NINETY-THIRD YEAR
95	95	THE NINETY-FOURTH YEAR
96	96	THE NINETY-FIFTH YEAR
97	97	THE NINETY-SIXTH YEAR
98	98	THE NINETY-SEVENTH YEAR
99	99	THE NINETY-EIGHTH YEAR
100	100	THE HUNDRETH YEAR

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
161	03-18-94	Pre-construction view of cell #1 area.
162	03-22-94	Seeding the cell area.
163	03-22-94	Seeding the cell area.
164	03-23-94	Cell area completed.
165	03-24-94	Pre-construction view of stock tank.
166	03-24-94	View of inlet pipe for stock tank.
167	03-24-94	Frozen and plugged 90" fitting on stock tank.
168	03-25-94	New pipe and fittings for stock tank.
WORK AREA 23		
169	06-17-93	Looking west at barren hillside from helicopter.
170	06-17-93	Looking west at barren hillside.
171	01-04-94	Pre-construction view of area #2.
172	01-04-94	Pre-construction view of area #3.
173	01-04-94	Pre-construction view of area #4.
174	03-02-94	Cat EI 300 excavator.
175	03-02-94	Starting south end of interception trench.
176	03-02-94	Excavating the southern end of the interception trench.
177	03-03-94	Area #2 excavated out.
178	03-03-94	Area #1 excavated out.
179	03-16-94	Placing amended waste soil.
180		Not used
181	03-18-94	Applying imported cover soil.
182	03-21-94	Leveling imported cover soil.
183	03-21-94	Trucking imported cover soil.

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
184	03-21-94	Drill seeding area #1.
185	03-21-94	Drill seeding top of area #1.
186	03-21-94	Area #2 ready for revegetation.
187	03-22-94	Laying erosion control blanket.
188	03-22-94	Stake in straw bales.
189	03-22-94	Rip rap overflow for interception trench.
190	03-23-94	Area #1 complete.
191	03-23-94	Area #2 complete.
192	03-17-94	#1 pile: 4" plus material and rock pile.
193	03-17-94	#2 pile: 4" plus material and rock pile.
194	03-14-94	Waste soil on Work Area 23.
195	03-16-94	Hauling amended waste soil with loader.
196	03-16-94	Lime mixing area.
197	03-16-94	Amending waste with lime.
198	03-16-94	Mixing lime with disk.
199	03-16-94	Truck load of lime at site.
200	03-17-94	Mixing lime in waste soil.
201	03-08-94	Loader with limestone rock.
202	03-23-94	Crimping area #3.
203	03-23-94	Area #3 complete.
204	03-23-94	Area #4 complete.
205	03-23-94	Mulch crimped on area #1.
206	03-08-94	Case 680K backhoe.
207	03-08-94	1 rolls mirafi 140N -2 rolls Amoco fabrics/claymax for the trench.

THE NINTH CENTURY: A HISTORY OF THE MIDDLE AGES

DATE	EVENT
800	Charlemagne crowned Emperor of the Romans
812	Charlemagne's death
843	Treaty of Verdun
854	Charlemagne's death
877	Charlemagne's death
885	Charlemagne's death
896	Charlemagne's death
900	Charlemagne's death
911	Charlemagne's death
924	Charlemagne's death
937	Charlemagne's death
947	Charlemagne's death
954	Charlemagne's death
961	Charlemagne's death
970	Charlemagne's death
979	Charlemagne's death
987	Charlemagne's death
994	Charlemagne's death
1000	Charlemagne's death
1009	Charlemagne's death
1012	Charlemagne's death
1017	Charlemagne's death
1024	Charlemagne's death
1037	Charlemagne's death
1047	Charlemagne's death
1054	Charlemagne's death
1061	Charlemagne's death
1070	Charlemagne's death
1079	Charlemagne's death
1087	Charlemagne's death
1094	Charlemagne's death
1100	Charlemagne's death
1109	Charlemagne's death
1112	Charlemagne's death
1117	Charlemagne's death
1124	Charlemagne's death
1137	Charlemagne's death
1147	Charlemagne's death
1154	Charlemagne's death
1161	Charlemagne's death
1170	Charlemagne's death
1179	Charlemagne's death
1187	Charlemagne's death
1194	Charlemagne's death
1200	Charlemagne's death
1209	Charlemagne's death
1212	Charlemagne's death
1217	Charlemagne's death
1224	Charlemagne's death
1237	Charlemagne's death
1247	Charlemagne's death
1254	Charlemagne's death
1261	Charlemagne's death
1270	Charlemagne's death
1279	Charlemagne's death
1287	Charlemagne's death
1294	Charlemagne's death
1300	Charlemagne's death
1309	Charlemagne's death
1312	Charlemagne's death
1317	Charlemagne's death
1324	Charlemagne's death
1337	Charlemagne's death
1347	Charlemagne's death
1354	Charlemagne's death
1361	Charlemagne's death
1370	Charlemagne's death
1379	Charlemagne's death
1387	Charlemagne's death
1394	Charlemagne's death
1400	Charlemagne's death
1409	Charlemagne's death
1412	Charlemagne's death
1417	Charlemagne's death
1424	Charlemagne's death
1437	Charlemagne's death
1447	Charlemagne's death
1454	Charlemagne's death
1461	Charlemagne's death
1470	Charlemagne's death
1479	Charlemagne's death
1487	Charlemagne's death
1494	Charlemagne's death
1500	Charlemagne's death
1509	Charlemagne's death
1512	Charlemagne's death
1517	Charlemagne's death
1524	Charlemagne's death
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1579	Charlemagne's death
1587	Charlemagne's death
1594	Charlemagne's death
1600	Charlemagne's death
1609	Charlemagne's death
1612	Charlemagne's death
1617	Charlemagne's death
1624	Charlemagne's death
1637	Charlemagne's death
1647	Charlemagne's death
1654	Charlemagne's death
1661	Charlemagne's death
1670	Charlemagne's death
1679	Charlemagne's death
1687	Charlemagne's death
1694	Charlemagne's death
1700	Charlemagne's death
1709	Charlemagne's death
1712	Charlemagne's death
1717	Charlemagne's death
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1754	Charlemagne's death
1761	Charlemagne's death
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1779	Charlemagne's death
1787	Charlemagne's death
1794	Charlemagne's death
1800	Charlemagne's death
1809	Charlemagne's death
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1879	Charlemagne's death
1887	Charlemagne's death
1894	Charlemagne's death
1900	Charlemagne's death
1909	Charlemagne's death
1912	Charlemagne's death
1917	Charlemagne's death
1924	Charlemagne's death
1937	Charlemagne's death
1947	Charlemagne's death
1954	Charlemagne's death
1961	Charlemagne's death
1970	Charlemagne's death
1979	Charlemagne's death
1987	Charlemagne's death
1994	Charlemagne's death
2000	Charlemagne's death

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
208	03-09-94	Large rocks from trench excavation.
209	03-08-94	Start excavation of interception trench.
210	03-10-94	Excavated trench (150' south of north end).
211	03-11-94	South end of trench.
212	03-11-94	Fabric on south end of trench.
213	03-11-94	Bentonite blanket and fabric complete on south end of trench.
214	03-11-94	Bentonite and fabric complete on south end of trench.
215	03-09-94	Layers of fabric and bentonite placed in trench.
216	03-09-94	Layer of fabric placed in trench.
217	03-09-94	Layer of bentonite placed in trench.
218	03-09-94	Limestone rock in the trench.
219	03-09-94	Trench ready for lime rock placement.
220	03-09-94	Limestone rock in the trench.
221	03-08-94	Layer of fabric placed in the trench.
222	03-09-94	Bentonite placed on top of trench.
223	03-10-94	Top of trench looking north.
224	03-10-94	Temporary drain on the northern end of the trench.
225	03-08-94	Limestone rock placed in trench.
226	03-09-94	Excavation of the interception trench.
227	03-11-94	Water out of trench
MINING COULEE		
228	12-15-93	Pre-construction view of Adit #1.
229	12-15-93	Pre-construction view of Adit #1.
230	12-30-93	Adit #1 after backfilling.

THE NORTH CAROLINA STATE ARCHIVES and the STATE HISTORICAL SOCIETY

DATE	DESCRIPTION	PRICE
1890	1890-1891	\$1.00
1891	1891-1892	\$1.00
1892	1892-1893	\$1.00
1893	1893-1894	\$1.00
1894	1894-1895	\$1.00
1895	1895-1896	\$1.00
1896	1896-1897	\$1.00
1897	1897-1898	\$1.00
1898	1898-1899	\$1.00
1899	1899-1900	\$1.00
1900	1900-1901	\$1.00
1901	1901-1902	\$1.00
1902	1902-1903	\$1.00
1903	1903-1904	\$1.00
1904	1904-1905	\$1.00
1905	1905-1906	\$1.00
1906	1906-1907	\$1.00
1907	1907-1908	\$1.00
1908	1908-1909	\$1.00
1909	1909-1910	\$1.00
1910	1910-1911	\$1.00
1911	1911-1912	\$1.00
1912	1912-1913	\$1.00
1913	1913-1914	\$1.00
1914	1914-1915	\$1.00
1915	1915-1916	\$1.00
1916	1916-1917	\$1.00
1917	1917-1918	\$1.00
1918	1918-1919	\$1.00
1919	1919-1920	\$1.00
1920	1920-1921	\$1.00
1921	1921-1922	\$1.00
1922	1922-1923	\$1.00
1923	1923-1924	\$1.00
1924	1924-1925	\$1.00
1925	1925-1926	\$1.00
1926	1926-1927	\$1.00
1927	1927-1928	\$1.00
1928	1928-1929	\$1.00
1929	1929-1930	\$1.00
1930	1930-1931	\$1.00
1931	1931-1932	\$1.00
1932	1932-1933	\$1.00
1933	1933-1934	\$1.00
1934	1934-1935	\$1.00
1935	1935-1936	\$1.00
1936	1936-1937	\$1.00
1937	1937-1938	\$1.00
1938	1938-1939	\$1.00
1939	1939-1940	\$1.00
1940	1940-1941	\$1.00
1941	1941-1942	\$1.00
1942	1942-1943	\$1.00
1943	1943-1944	\$1.00
1944	1944-1945	\$1.00
1945	1945-1946	\$1.00
1946	1946-1947	\$1.00
1947	1947-1948	\$1.00
1948	1948-1949	\$1.00
1949	1949-1950	\$1.00
1950	1950-1951	\$1.00
1951	1951-1952	\$1.00
1952	1952-1953	\$1.00
1953	1953-1954	\$1.00
1954	1954-1955	\$1.00
1955	1955-1956	\$1.00
1956	1956-1957	\$1.00
1957	1957-1958	\$1.00
1958	1958-1959	\$1.00
1959	1959-1960	\$1.00
1960	1960-1961	\$1.00
1961	1961-1962	\$1.00
1962	1962-1963	\$1.00
1963	1963-1964	\$1.00
1964	1964-1965	\$1.00
1965	1965-1966	\$1.00
1966	1966-1967	\$1.00
1967	1967-1968	\$1.00
1968	1968-1969	\$1.00
1969	1969-1970	\$1.00
1970	1970-1971	\$1.00
1971	1971-1972	\$1.00
1972	1972-1973	\$1.00
1973	1973-1974	\$1.00
1974	1974-1975	\$1.00
1975	1975-1976	\$1.00
1976	1976-1977	\$1.00
1977	1977-1978	\$1.00
1978	1978-1979	\$1.00
1979	1979-1980	\$1.00
1980	1980-1981	\$1.00
1981	1981-1982	\$1.00
1982	1982-1983	\$1.00
1983	1983-1984	\$1.00
1984	1984-1985	\$1.00
1985	1985-1986	\$1.00
1986	1986-1987	\$1.00
1987	1987-1988	\$1.00
1988	1988-1989	\$1.00
1989	1989-1990	\$1.00
1990	1990-1991	\$1.00
1991	1991-1992	\$1.00
1992	1992-1993	\$1.00
1993	1993-1994	\$1.00
1994	1994-1995	\$1.00
1995	1995-1996	\$1.00
1996	1996-1997	\$1.00
1997	1997-1998	\$1.00
1998	1998-1999	\$1.00
1999	1999-2000	\$1.00
2000	2000-2001	\$1.00
2001	2001-2002	\$1.00
2002	2002-2003	\$1.00
2003	2003-2004	\$1.00
2004	2004-2005	\$1.00
2005	2005-2006	\$1.00
2006	2006-2007	\$1.00
2007	2007-2008	\$1.00
2008	2008-2009	\$1.00
2009	2009-2010	\$1.00
2010	2010-2011	\$1.00
2011	2011-2012	\$1.00
2012	2012-2013	\$1.00
2013	2013-2014	\$1.00
2014	2014-2015	\$1.00
2015	2015-2016	\$1.00
2016	2016-2017	\$1.00
2017	2017-2018	\$1.00
2018	2018-2019	\$1.00
2019	2019-2020	\$1.00
2020	2020-2021	\$1.00
2021	2021-2022	\$1.00
2022	2022-2023	\$1.00
2023	2023-2024	\$1.00
2024	2024-2025	\$1.00

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
231	12-15-93	Pre-construction view of Adit #2.
232	12-30-93	Adit #2 after backfilling.
233	12-15-93	Pre-construction view of Adit #3.
234	12-30-93	Adit #3 after backfilling.
235	12-15-93	Pre-construction view of Adit #4.
236	12-30-93	Adit #4 after backfilling.
237	12-15-93	Pre-construction view of subsidence hole #1.
238	12-30-94	Backfilling subsidence hole #1.
239	12-30-93	Subsidence hole #1 after backfilling.
240	12-30-93	Subsidence hole #1 after completion.
241	12-15-93	Pre-construction view of subsidence hole #2.
242	12-29-93	Backfilling Adit #3 and Subsidence #2.
243	12-30-93	Subsidence hole #2 after backfilling.
244	12-30-93	Subsidence hole #2 after completion.
245	12-15-93	Pre-construction view of subsidence hole #3.
246	12-29-93	Subsidence hole #3 being excavated.
247	12-30-93	Subsidence hole #3 after backfilling.
248	12-30-93	Subsidence hole #3 after completion.
BELT CULVERT		
249	06-17-93	Helicopter view looking west at drainage ditch and wetlands.
250	06-17-93	Looking south at upper drainage ditch from the culvert.
251	03-30-94	Pre-construction view of south end across the road.
252	03-30-94	Pre-construction view of south end.
253	06-17-93	Looking north at upper drainage ditch above the culvert.

1995-1996 FISH CATCHES IN THE NORTH ATLANTIC OCEAN

Species	1995	1996
Atlantic Salmon	12,345	13,456
Atlantic Herring	23,456	24,567
Atlantic Mackerel	34,567	35,678
Atlantic Cod	45,678	46,789
Atlantic Whiting	56,789	57,890
Atlantic Pollack	67,890	68,901
Atlantic Tuna	78,901	79,012
Atlantic Shark	89,012	90,123
Atlantic Ray	90,123	91,234
Atlantic Eel	101,234	102,345
Atlantic Octopus	112,345	113,456
Atlantic Squid	123,456	124,567
Atlantic Crab	134,567	135,678
Atlantic Shrimp	145,678	146,789
Atlantic Starfish	156,789	157,890
Atlantic Sea Urchin	167,890	168,901
Atlantic Jellyfish	178,901	179,012
Atlantic Copepod	189,012	190,123
Atlantic Prawn	190,123	191,234
Atlantic Scallop	201,234	202,345
Atlantic Clam	212,345	213,456
Atlantic Mussel	223,456	224,567
Atlantic Barnacle	234,567	235,678
Atlantic Anemone	245,678	246,789
Atlantic Sea Anemone	256,789	257,890
Atlantic Hydrozoa	267,890	268,901
Atlantic Cnidaria	278,901	279,012
Atlantic Plutei	289,012	290,123
Atlantic Larvae	290,123	291,234
Atlantic Juveniles	301,234	302,345
Atlantic Adults	312,345	313,456
Atlantic Senescent	323,456	324,567
Atlantic Mortals	334,567	335,678
Atlantic Castaways	345,678	346,789
Atlantic Stragglers	356,789	357,890
Atlantic Drifters	367,890	368,901
Atlantic Wash-ups	378,901	379,012
Atlantic Beachcombs	389,012	390,123
Atlantic Tidepools	390,123	391,234
Atlantic Ponds	401,234	402,345
Atlantic Lagoons	412,345	413,456
Atlantic Estuaries	423,456	424,567
Atlantic Bays	434,567	435,678
Atlantic Harbors	445,678	446,789
Atlantic Inlets	456,789	457,890
Atlantic Fjords	467,890	468,901
Atlantic Fjords	478,901	479,012
Atlantic Fjords	489,012	490,123
Atlantic Fjords	490,123	491,234
Atlantic Fjords	501,234	502,345
Atlantic Fjords	512,345	513,456
Atlantic Fjords	523,456	524,567
Atlantic Fjords	534,567	535,678
Atlantic Fjords	545,678	546,789
Atlantic Fjords	556,789	557,890
Atlantic Fjords	567,890	568,901
Atlantic Fjords	578,901	579,012
Atlantic Fjords	589,012	590,123
Atlantic Fjords	590,123	591,234
Atlantic Fjords	601,234	602,345
Atlantic Fjords	612,345	613,456
Atlantic Fjords	623,456	624,567
Atlantic Fjords	634,567	635,678
Atlantic Fjords	645,678	646,789
Atlantic Fjords	656,789	657,890
Atlantic Fjords	667,890	668,901
Atlantic Fjords	678,901	679,012
Atlantic Fjords	689,012	690,123
Atlantic Fjords	690,123	691,234
Atlantic Fjords	701,234	702,345
Atlantic Fjords	712,345	713,456
Atlantic Fjords	723,456	724,567
Atlantic Fjords	734,567	735,678
Atlantic Fjords	745,678	746,789
Atlantic Fjords	756,789	757,890
Atlantic Fjords	767,890	768,901
Atlantic Fjords	778,901	779,012
Atlantic Fjords	789,012	790,123
Atlantic Fjords	790,123	791,234
Atlantic Fjords	801,234	802,345
Atlantic Fjords	812,345	813,456
Atlantic Fjords	823,456	824,567
Atlantic Fjords	834,567	835,678
Atlantic Fjords	845,678	846,789
Atlantic Fjords	856,789	857,890
Atlantic Fjords	867,890	868,901
Atlantic Fjords	878,901	879,012
Atlantic Fjords	889,012	890,123
Atlantic Fjords	890,123	891,234
Atlantic Fjords	901,234	902,345
Atlantic Fjords	912,345	913,456
Atlantic Fjords	923,456	924,567
Atlantic Fjords	934,567	935,678
Atlantic Fjords	945,678	946,789
Atlantic Fjords	956,789	957,890
Atlantic Fjords	967,890	968,901
Atlantic Fjords	978,901	979,012
Atlantic Fjords	989,012	990,123
Atlantic Fjords	990,123	991,234
Atlantic Fjords	1001,234	1002,345

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
254	03-30-94	New radius and completed ditch on the south end.
255	03-30-94	Pre-construction view of north end of ditch.
256	03-30-94	Excavated ditch looking south.
257	06-17-93	Looking north at lower drainage ditch below the culvert.
258	03-30-94	Pre-construction view of south end of ditch.
259	03-30-94	Excavation of the ditch.
260	03-30-94	View from the north of the completed ditch.
ANACONDA ADIT		
261	06-18-93	Pre-construction view looking northwest toward adit and highway right-of-way fence.
262	03-24-94	Pre-construction view of open adit.
263	06-18-93	Pre-construction view looking southeast out of adit entrance.
264	03-24-94	Adit filled with coal slack.
265	03-24-94	John Deere dozer backfilling adit.
266	03-24-94	Adit backfilled and ready for revegetation.
267	03-25-94	Reclaimed adit complete with fence.
268	06-18-93	Pre-construction view looking south from highway at coal slack pile.
269	06-18-93	Pre-construction view looking northwest at coal slack pile from access road.
270	03-25-94	Anaconda site complete.
271	03-24-94	Pre-construction view of large coal slack pile.
272	03-24-94	Pre-construction view of small coal slack pile.
273	03-24-94	Large coal slack pile after cover soil placement.
274	03-24-94	Small coal slack pile after cover soil placement.

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CHICAGO, ILL. 60637

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
275	03-24-94	Borrow area.
276	03-25-94	Small coal slack area complete.
277	03-25-94	Top of large coal slack area complete.
278	03-25-94	Borrow area and large coal slack complete.
RAYNESFORD "C"		
279	06-18-93	Pre-construction view looking east at adit face-up.
280	06-18-93	Pre-construction view looking east at open adit.
281	06-13-94	Closed Adit #1.
282	06-18-93	Pre-construction view looking east at southern adit opening.
283	06-13-94	Closed Adit #2.
284	06-18-93	Pre-construction view looking east at the four northern coal slack piles.
285	06-13-93	Pre-construction view of coal slack pile #1.
286	06-14-94	Leveling coal slack pile #1.
287	06-15-94	Spreading lime on pile #1.
288	06-15-94	Drill seeding pile #1.
289	06-17-94	Pile #1 completed.
290	06-13-93	Pre-construction view of pile #2.
291	06-17-94	Spreading mulch on pile #2.
292	06-17-94	Pile #2 completed.
293	06-13-93	Pre-construction view of pile #3.
294	06-15-94	Cover soil going on pile #3.
295	06-15-94	Drill seeding pile #3.
296	06-15-94	Drill seeding pile #3.
297	06-17-94	Crimping pile #3.

1982 NORTH-CENTRAL MOUNTAIN LARK - THRUWAY AIRPORT
 DATE DESCRIPTION

ASSIGNED NUMBER	DATE TIME	SUBJECT
122	01-24-82	THRUWAY AIRPORT
123	02-12-82	THRUWAY AIRPORT
124	02-27-82	THRUWAY AIRPORT
125	03-05-82	THRUWAY AIRPORT
(PAUSE - 2nd yr)		
126	04-18-82	THRUWAY AIRPORT
127	05-18-82	THRUWAY AIRPORT
128	06-01-82	THRUWAY AIRPORT
129	06-15-82	THRUWAY AIRPORT
130	06-29-82	THRUWAY AIRPORT
131	07-13-82	THRUWAY AIRPORT
132	07-27-82	THRUWAY AIRPORT
133	08-10-82	THRUWAY AIRPORT
134	08-24-82	THRUWAY AIRPORT
135	09-07-82	THRUWAY AIRPORT
136	09-21-82	THRUWAY AIRPORT
137	10-05-82	THRUWAY AIRPORT
138	10-19-82	THRUWAY AIRPORT
139	11-02-82	THRUWAY AIRPORT
140	11-16-82	THRUWAY AIRPORT
141	11-30-82	THRUWAY AIRPORT
142	12-14-82	THRUWAY AIRPORT
143	12-28-82	THRUWAY AIRPORT
144	01-11-83	THRUWAY AIRPORT
145	01-25-83	THRUWAY AIRPORT
146	02-08-83	THRUWAY AIRPORT
147	02-22-83	THRUWAY AIRPORT
148	03-07-83	THRUWAY AIRPORT
149	03-21-83	THRUWAY AIRPORT
150	04-04-83	THRUWAY AIRPORT
151	04-18-83	THRUWAY AIRPORT
152	05-02-83	THRUWAY AIRPORT
153	05-16-83	THRUWAY AIRPORT
154	05-30-83	THRUWAY AIRPORT
155	06-13-83	THRUWAY AIRPORT
156	06-27-83	THRUWAY AIRPORT
157	07-11-83	THRUWAY AIRPORT
158	07-25-83	THRUWAY AIRPORT
159	08-08-83	THRUWAY AIRPORT
160	08-22-83	THRUWAY AIRPORT
161	09-05-83	THRUWAY AIRPORT
162	09-19-83	THRUWAY AIRPORT
163	10-03-83	THRUWAY AIRPORT
164	10-17-83	THRUWAY AIRPORT
165	10-31-83	THRUWAY AIRPORT
166	11-14-83	THRUWAY AIRPORT
167	11-28-83	THRUWAY AIRPORT
168	12-12-83	THRUWAY AIRPORT
169	12-26-83	THRUWAY AIRPORT
170	01-09-84	THRUWAY AIRPORT
171	01-23-84	THRUWAY AIRPORT
172	02-06-84	THRUWAY AIRPORT
173	02-20-84	THRUWAY AIRPORT
174	03-06-84	THRUWAY AIRPORT
175	03-20-84	THRUWAY AIRPORT
176	04-03-84	THRUWAY AIRPORT
177	04-17-84	THRUWAY AIRPORT
178	05-01-84	THRUWAY AIRPORT
179	05-15-84	THRUWAY AIRPORT
180	05-29-84	THRUWAY AIRPORT
181	06-12-84	THRUWAY AIRPORT
182	06-26-84	THRUWAY AIRPORT
183	07-10-84	THRUWAY AIRPORT
184	07-24-84	THRUWAY AIRPORT
185	08-07-84	THRUWAY AIRPORT
186	08-21-84	THRUWAY AIRPORT
187	09-04-84	THRUWAY AIRPORT
188	09-18-84	THRUWAY AIRPORT
189	10-02-84	THRUWAY AIRPORT
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191	10-30-84	THRUWAY AIRPORT
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193	11-27-84	THRUWAY AIRPORT
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195	12-25-84	THRUWAY AIRPORT
196	01-08-85	THRUWAY AIRPORT
197	01-22-85	THRUWAY AIRPORT
198	02-05-85	THRUWAY AIRPORT
199	02-19-85	THRUWAY AIRPORT
200	03-05-85	THRUWAY AIRPORT
201	03-19-85	THRUWAY AIRPORT
202	04-02-85	THRUWAY AIRPORT
203	04-16-85	THRUWAY AIRPORT
204	05-03-85	THRUWAY AIRPORT
205	05-17-85	THRUWAY AIRPORT
206	06-03-85	THRUWAY AIRPORT
207	06-17-85	THRUWAY AIRPORT
208	07-01-85	THRUWAY AIRPORT
209	07-15-85	THRUWAY AIRPORT
210	07-29-85	THRUWAY AIRPORT
211	08-12-85	THRUWAY AIRPORT
212	08-26-85	THRUWAY AIRPORT
213	09-09-85	THRUWAY AIRPORT
214	09-23-85	THRUWAY AIRPORT
215	10-07-85	THRUWAY AIRPORT
216	10-21-85	THRUWAY AIRPORT
217	11-04-85	THRUWAY AIRPORT
218	11-18-85	THRUWAY AIRPORT
219	12-02-85	THRUWAY AIRPORT
220	12-16-85	THRUWAY AIRPORT
221	12-30-85	THRUWAY AIRPORT
222	01-13-86	THRUWAY AIRPORT
223	01-27-86	THRUWAY AIRPORT
224	02-10-86	THRUWAY AIRPORT
225	02-24-86	THRUWAY AIRPORT
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240	09-22-86	THRUWAY AIRPORT
241	10-06-86	THRUWAY AIRPORT
242	10-20-86	THRUWAY AIRPORT
243	11-03-86	THRUWAY AIRPORT
244	11-17-86	THRUWAY AIRPORT
245	12-01-86	THRUWAY AIRPORT
246	12-15-86	THRUWAY AIRPORT
247	12-29-86	THRUWAY AIRPORT
248	01-12-87	THRUWAY AIRPORT
249	01-26-87	THRUWAY AIRPORT
250	02-09-87	THRUWAY AIRPORT
251	02-23-87	THRUWAY AIRPORT
252	03-09-87	THRUWAY AIRPORT
253	03-23-87	THRUWAY AIRPORT
254	04-06-87	THRUWAY AIRPORT
255	04-20-87	THRUWAY AIRPORT
256	05-04-87	THRUWAY AIRPORT
257	05-18-87	THRUWAY AIRPORT
258	06-01-87	THRUWAY AIRPORT
259	06-15-87	THRUWAY AIRPORT
260	06-29-87	THRUWAY AIRPORT
261	07-13-87	THRUWAY AIRPORT
262	07-27-87	THRUWAY AIRPORT
263	08-10-87	THRUWAY AIRPORT
264	08-24-87	THRUWAY AIRPORT
265	09-07-87	THRUWAY AIRPORT
266	09-21-87	THRUWAY AIRPORT
267	10-05-87	THRUWAY AIRPORT
268	10-19-87	THRUWAY AIRPORT
269	11-02-87	THRUWAY AIRPORT
270	11-16-87	THRUWAY AIRPORT
271	12-03-87	THRUWAY AIRPORT
272	12-17-87	THRUWAY AIRPORT
273	12-31-87	THRUWAY AIRPORT
274	01-14-88	THRUWAY AIRPORT
275	01-28-88	THRUWAY AIRPORT
276	02-11-88	THRUWAY AIRPORT
277	02-25-88	THRUWAY AIRPORT
278	03-11-88	THRUWAY AIRPORT
279	03-25-88	THRUWAY AIRPORT
280	04-08-88	THRUWAY AIRPORT
281	04-22-88	THRUWAY AIRPORT
282	05-06-88	THRUWAY AIRPORT
283	05-20-88	THRUWAY AIRPORT
284	06-03-88	THRUWAY AIRPORT
285	06-17-88	THRUWAY AIRPORT
286	06-30-88	THRUWAY AIRPORT
287	07-14-88	THRUWAY AIRPORT
288	07-28-88	THRUWAY AIRPORT
289	08-11-88	THRUWAY AIRPORT
290	08-25-88	THRUWAY AIRPORT
291	09-08-88	THRUWAY AIRPORT
292	09-22-88	THRUWAY AIRPORT
293	10-06-88	THRUWAY AIRPORT
294	10-20-88	THRUWAY AIRPORT
295	11-03-88	THRUWAY AIRPORT
296	11-17-88	THRUWAY AIRPORT
297	12-01-88	THRUWAY AIRPORT
298	12-15-88	THRUWAY AIRPORT
299	12-29-88	THRUWAY AIRPORT
300	01-12-89	THRUWAY AIRPORT

**1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS**

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
298	06-17-94	Pile #3 after completion.
299	06-13-93	Pre-construction of pile #4.
300	06-15-94	Cover soil on pile #4.
301	06-17-94	Pile #4 after completion.
302	06-15-94	Borrow area between pile #3 and #4.
303	06-13-93	Pre-construction view looking northeast at the southern coal slack pile.
304	06-13-93	Pre-construction view looking west from the adit opening at the southern coal slack pile.
305	06-13-93	Pre-construction view of pile #5.
306	06-14-94	Leveling coal slack pile #5.
307	06-14-94	Spreading lime on coal slack pile #5.
308	06-15-94	Cover soil going on coal slack pile #5.
309	06-17-94	Pile #5 and borrow area after completion.
COAL MINE COULEE		
310	06-18-93	Pre-construction view looking east at the two subsidence holes.
311	06-18-93	Pre-construction view looking southwest at subsidence and air shaft.
312	03-29-94	Pre-construction view of subsidence hole #1.
313	03-29-94	Hole #1 after completion.
314	06-18-93	Pre-construction view looking southwest at small subsidence.
315	03-29-94	Pre-construction view of subsidence hole #2.
316	03-29-94	Subsidence hole #2 after completion.
317	06-18-93	Pre-construction view looking east at barren hillside at site 1.
318	06-18-93	Pre-construction view looking north at barren hillside at site 1.
319	03-29-94	Barren hillside after revegetation.

THE HORTICULTURAL REPORTS OF THE 1900-1901 SEASON

REPORT	PAGE	PAGE	PAGE	PAGE	PAGE	PAGE	PAGE
1. The Horticultural Report of the 1900-1901 Season	1	1	1	1	1	1	1
2. The Horticultural Report of the 1900-1901 Season	2	2	2	2	2	2	2
3. The Horticultural Report of the 1900-1901 Season	3	3	3	3	3	3	3
4. The Horticultural Report of the 1900-1901 Season	4	4	4	4	4	4	4
5. The Horticultural Report of the 1900-1901 Season	5	5	5	5	5	5	5
6. The Horticultural Report of the 1900-1901 Season	6	6	6	6	6	6	6
7. The Horticultural Report of the 1900-1901 Season	7	7	7	7	7	7	7
8. The Horticultural Report of the 1900-1901 Season	8	8	8	8	8	8	8
9. The Horticultural Report of the 1900-1901 Season	9	9	9	9	9	9	9
10. The Horticultural Report of the 1900-1901 Season	10	10	10	10	10	10	10
11. The Horticultural Report of the 1900-1901 Season	11	11	11	11	11	11	11
12. The Horticultural Report of the 1900-1901 Season	12	12	12	12	12	12	12
13. The Horticultural Report of the 1900-1901 Season	13	13	13	13	13	13	13
14. The Horticultural Report of the 1900-1901 Season	14	14	14	14	14	14	14
15. The Horticultural Report of the 1900-1901 Season	15	15	15	15	15	15	15
16. The Horticultural Report of the 1900-1901 Season	16	16	16	16	16	16	16
17. The Horticultural Report of the 1900-1901 Season	17	17	17	17	17	17	17
18. The Horticultural Report of the 1900-1901 Season	18	18	18	18	18	18	18
19. The Horticultural Report of the 1900-1901 Season	19	19	19	19	19	19	19
20. The Horticultural Report of the 1900-1901 Season	20	20	20	20	20	20	20
21. The Horticultural Report of the 1900-1901 Season	21	21	21	21	21	21	21
22. The Horticultural Report of the 1900-1901 Season	22	22	22	22	22	22	22
23. The Horticultural Report of the 1900-1901 Season	23	23	23	23	23	23	23
24. The Horticultural Report of the 1900-1901 Season	24	24	24	24	24	24	24
25. The Horticultural Report of the 1900-1901 Season	25	25	25	25	25	25	25
26. The Horticultural Report of the 1900-1901 Season	26	26	26	26	26	26	26

1993 NORTH-CENTRAL MONTANA MAINTENANCE PROJECT
PHOTO DESCRIPTIONS

<u>ASSIGNED NUMBER</u>	<u>DATE TAKEN</u>	<u>SUBJECT OR COMMENTS</u>
HUGHES E		
320	06-18-93	Pre-construction view looking southwest at open adit.
321	06-18-93	Pre-construction view looking east at open adit.
322	03-28-94	Pre-construction view of adit #1.
323	03-28-94	Opening of adit #1.
324	03-28-94	Adit #1 after backfilling.
325	03-29-94	Adit #1 complete.
326	06-18-93	Pre-construction view looking east at subsidence hole north of one under the fence.
327	03-28-94	Loader working subsidence hole #1.
328	03-28-94	Subsidence hole #1 after backfilling.
329	03-28-94	Subsidence hole #1 after revegetation.
330	06-18-93	Pre-construction view looking at subsidence #2.
331	03-28-94	Pre-construction view of subsidence hole #2.
332	03-29-94	Subsidence hole #2 after completion.
333	03-28-94	Pre-construction view of extra air shaft.
334	03-28-94	Extra air shaft after backfilling.
335	03-28-94	Extra air shaft after revegetation.

**NORTH CENTRAL
MAINTENANCE
PROJECT**



1

**COTTONWOOD
CREEK SITE
T18N, R5E, SEC. 7
CASCADE COUNTY**



2



**DOLENA WELL SITE
T18N, R5E, SEC. 7
CASCADE COUNTY**





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**1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
STOCKETT WESTRIDGE SITE**
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 12/21/93-3/15/94

Roll #3 #3

21



**STOCKETT -
WESTRIDGE SITE
T19N, R4E, SEC. 36
CASCADE COUNTY**

EQUIPMENT



22



23



24



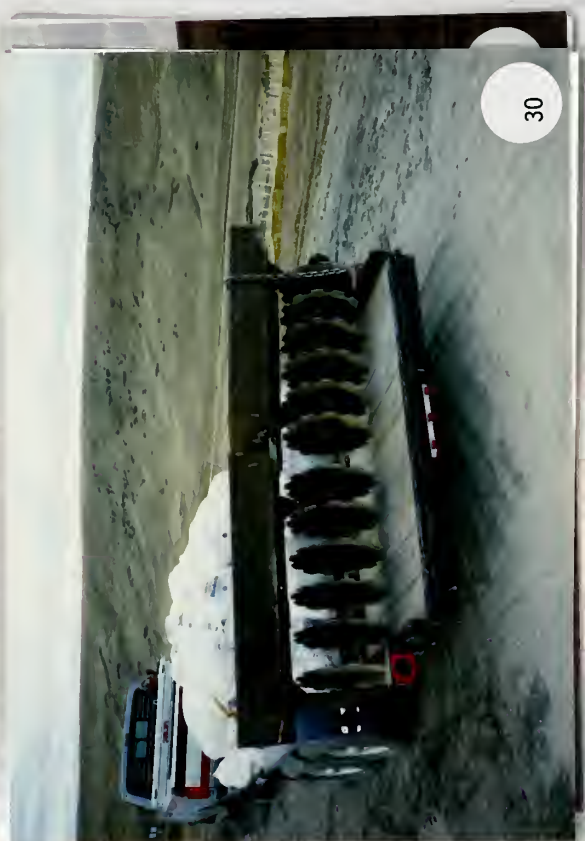
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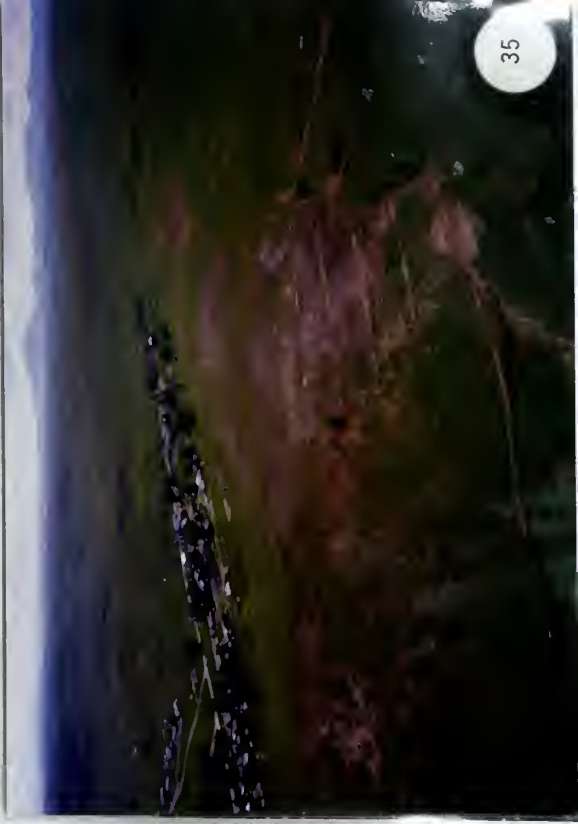


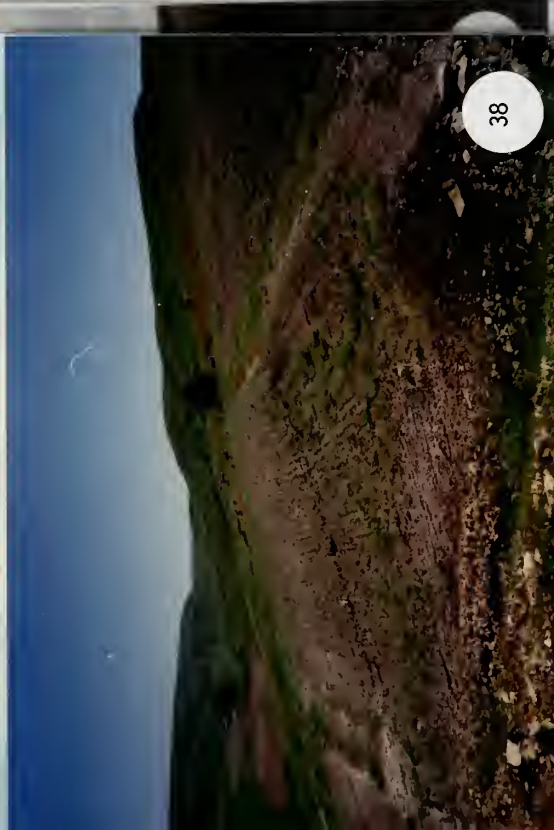
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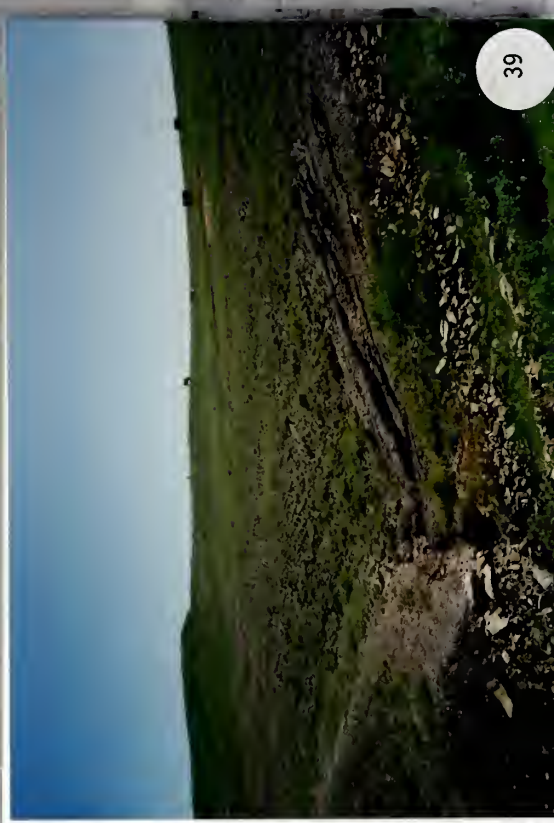
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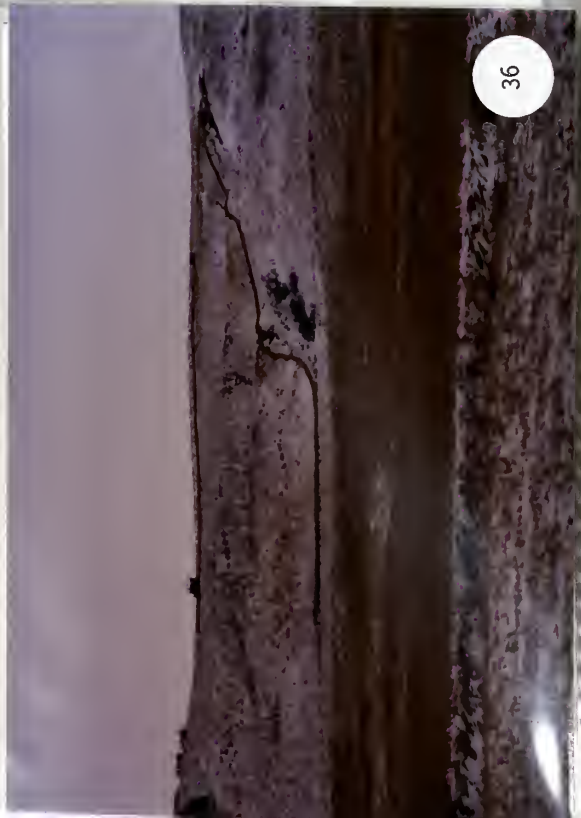




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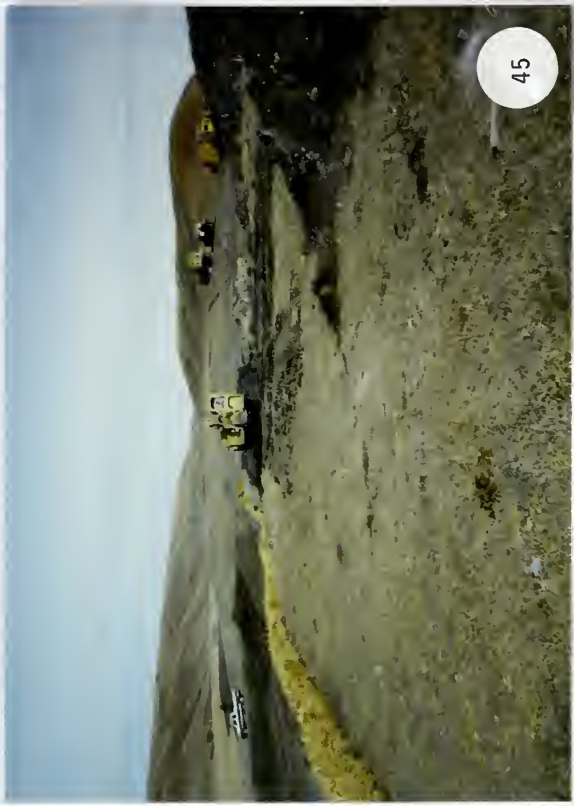


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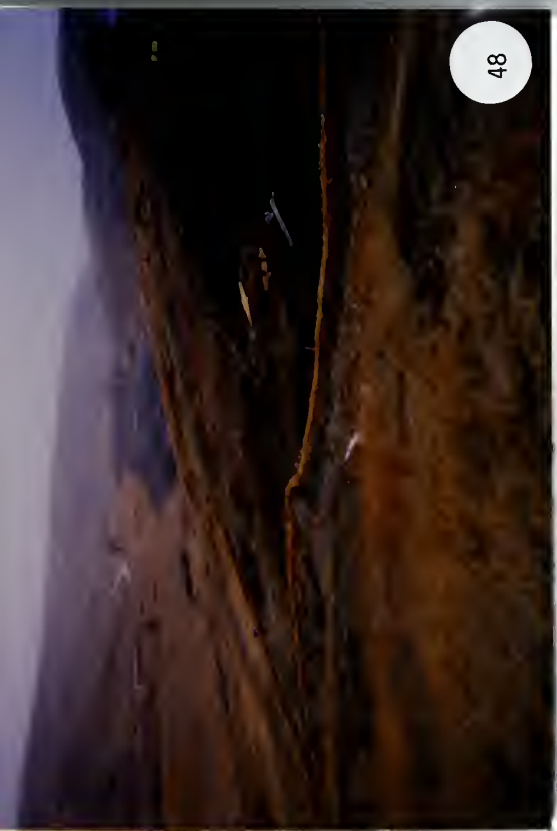
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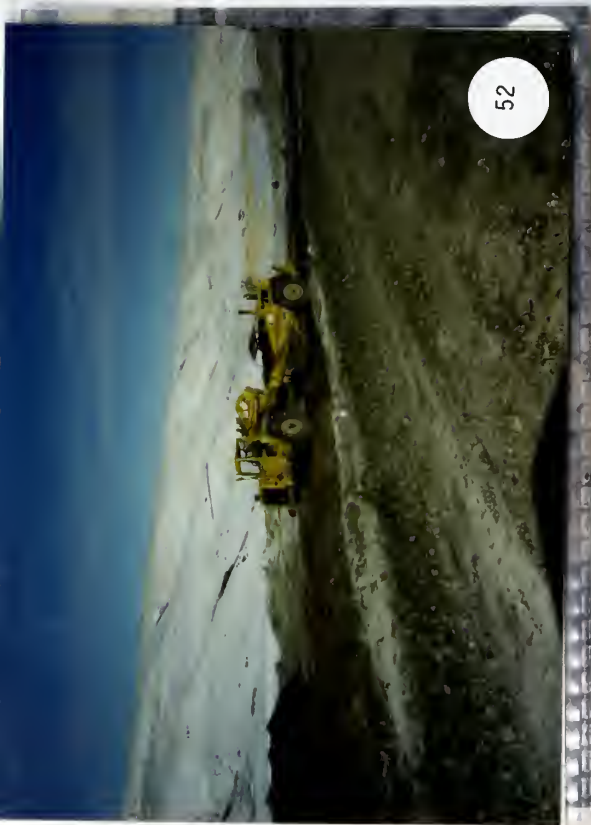
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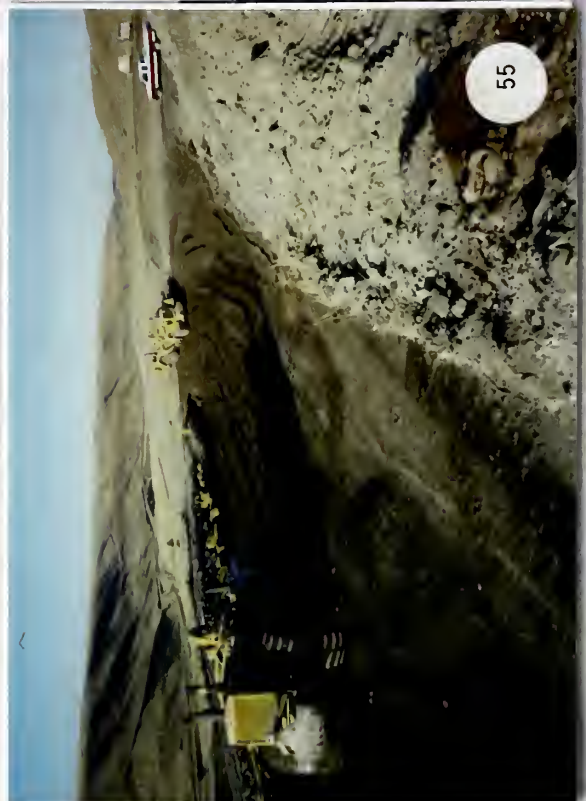
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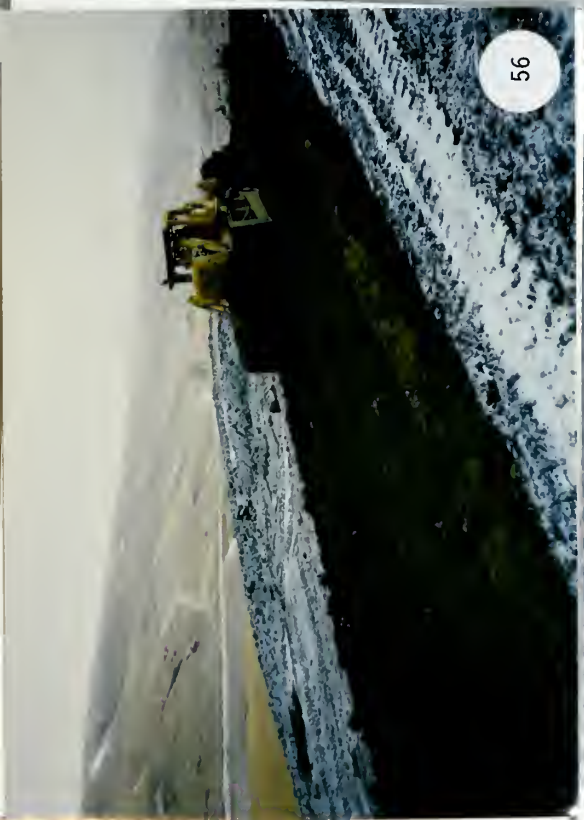
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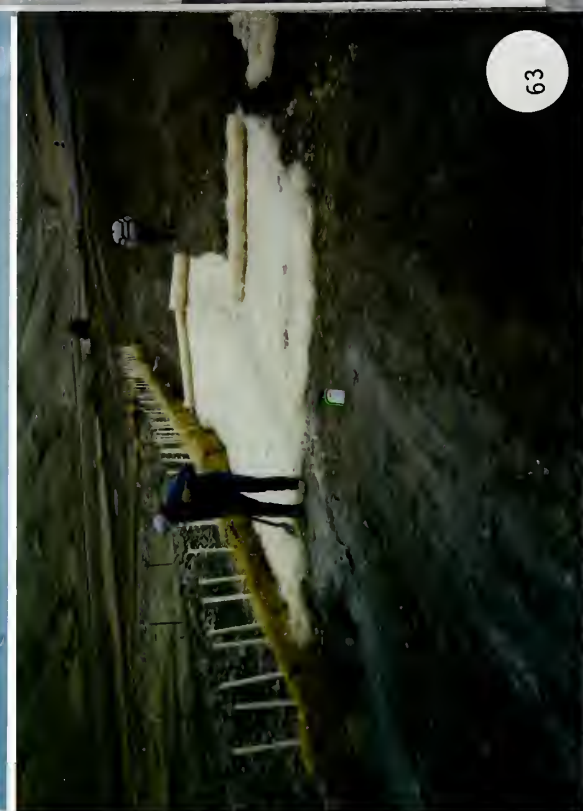
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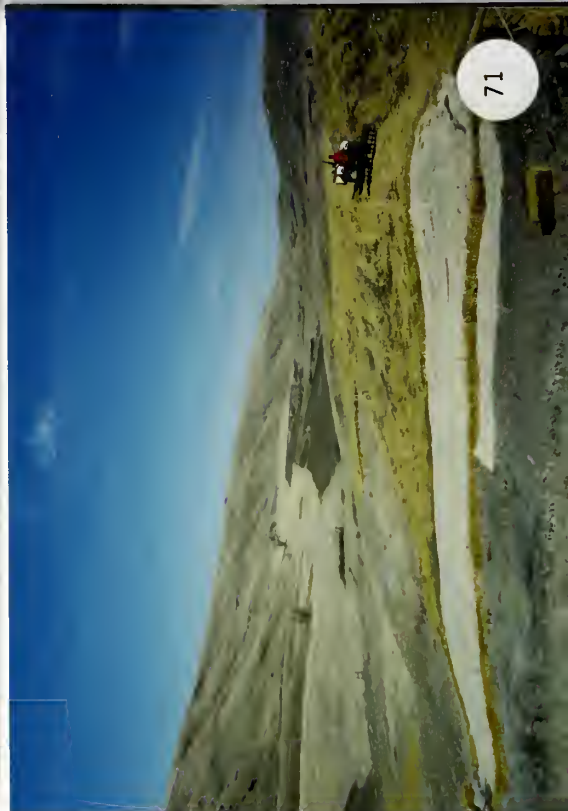
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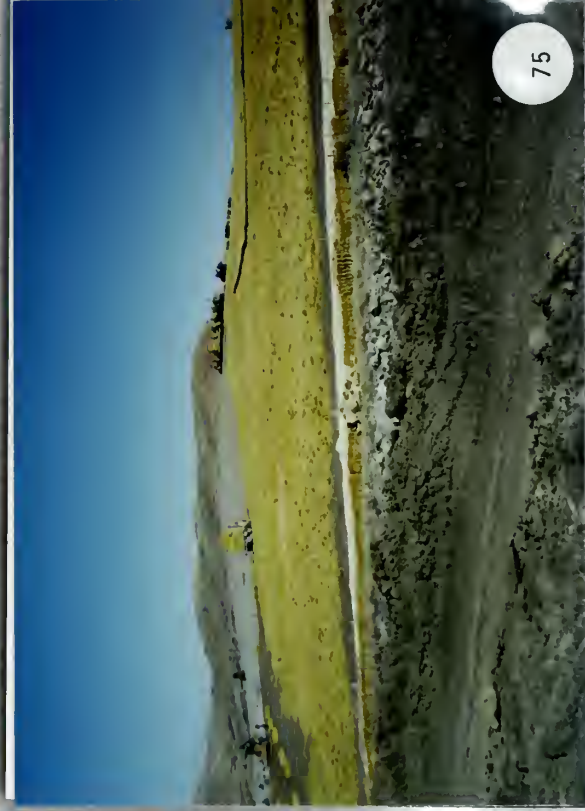
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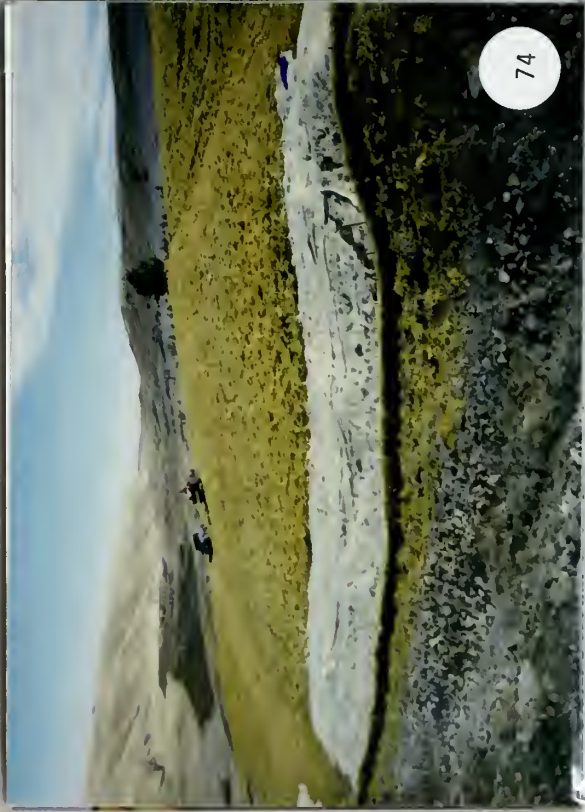
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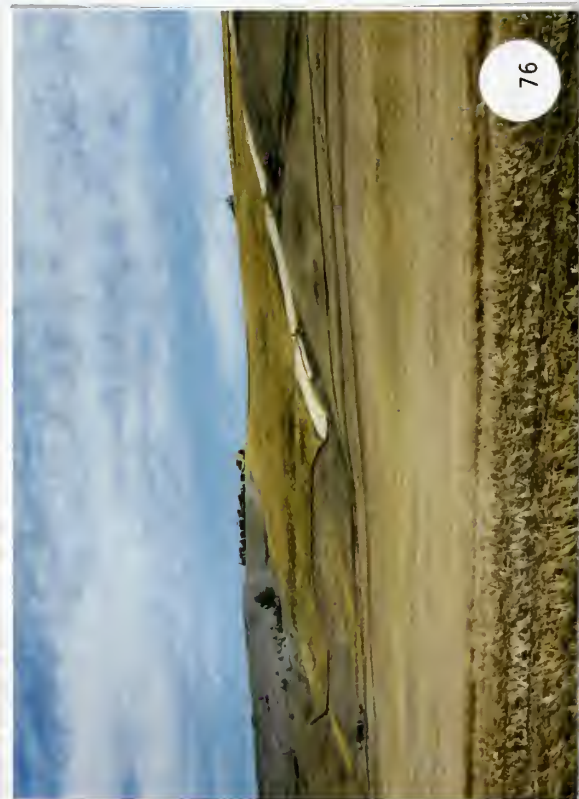
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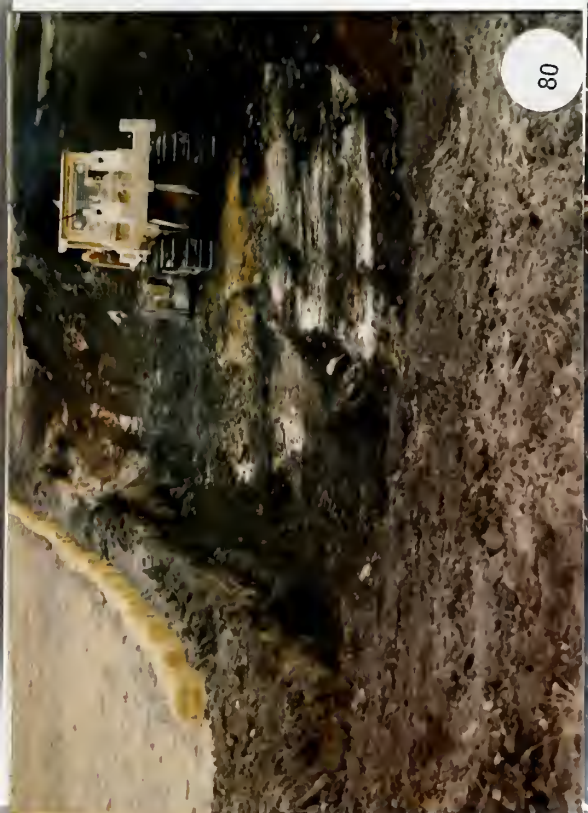
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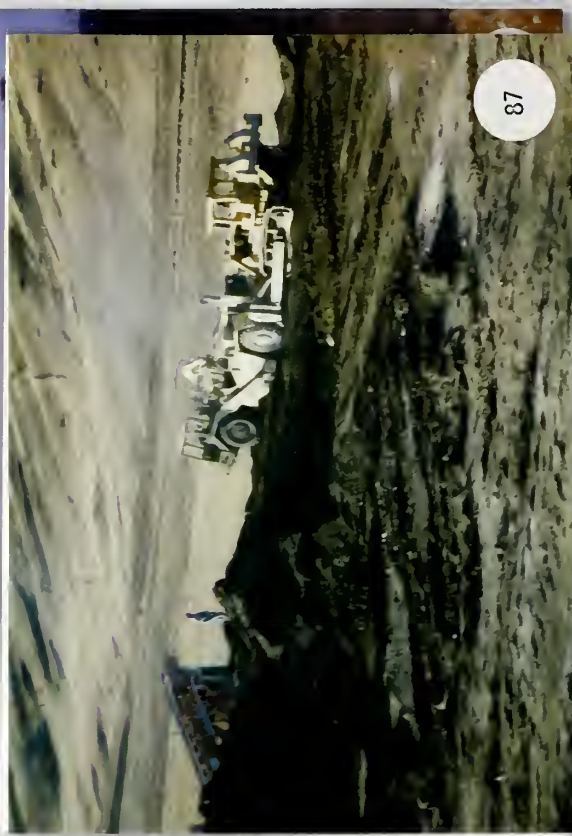
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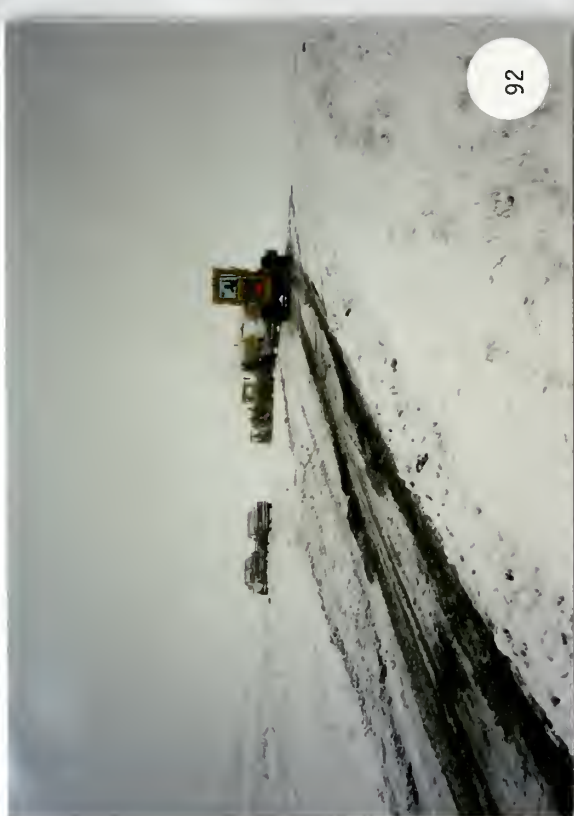
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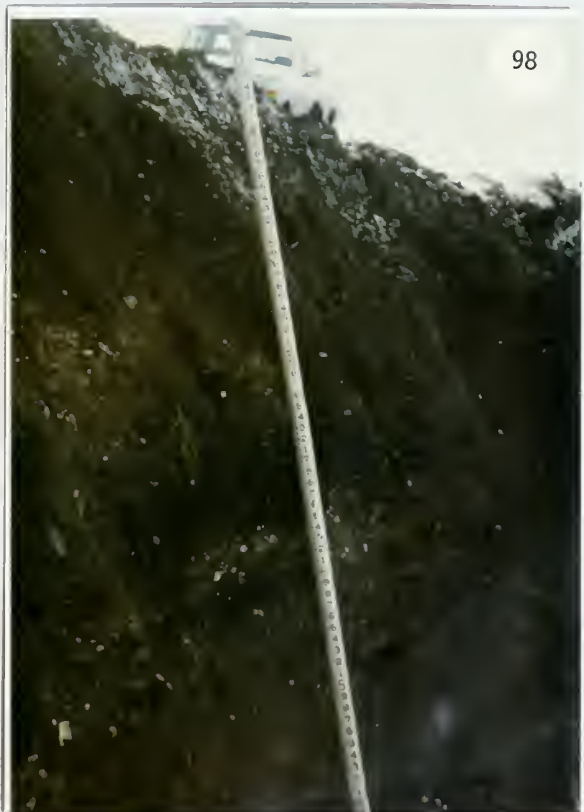
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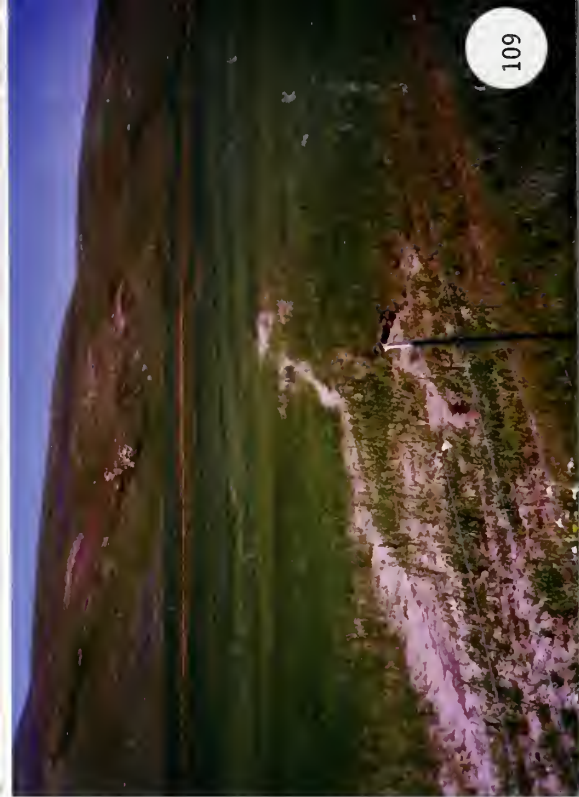
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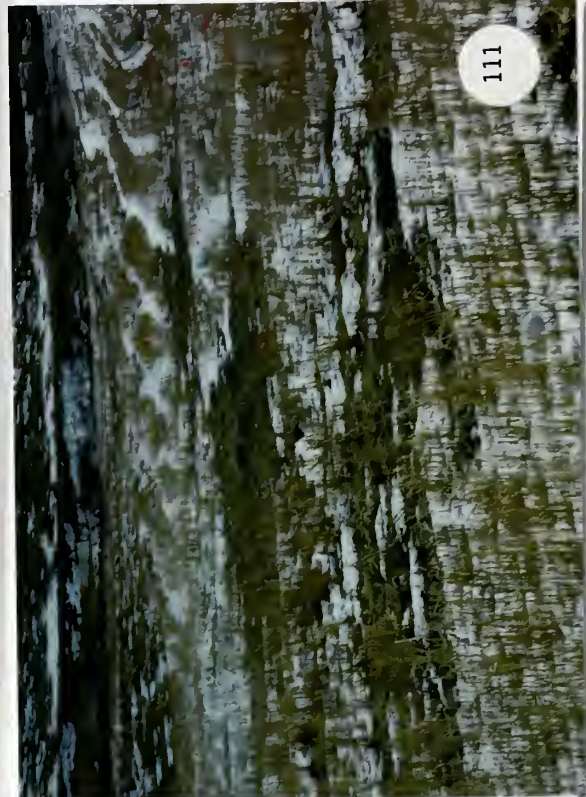
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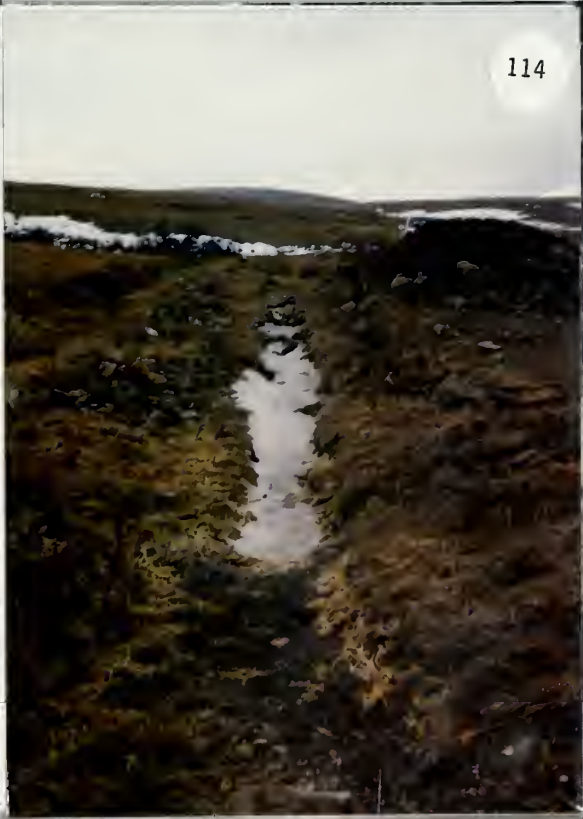
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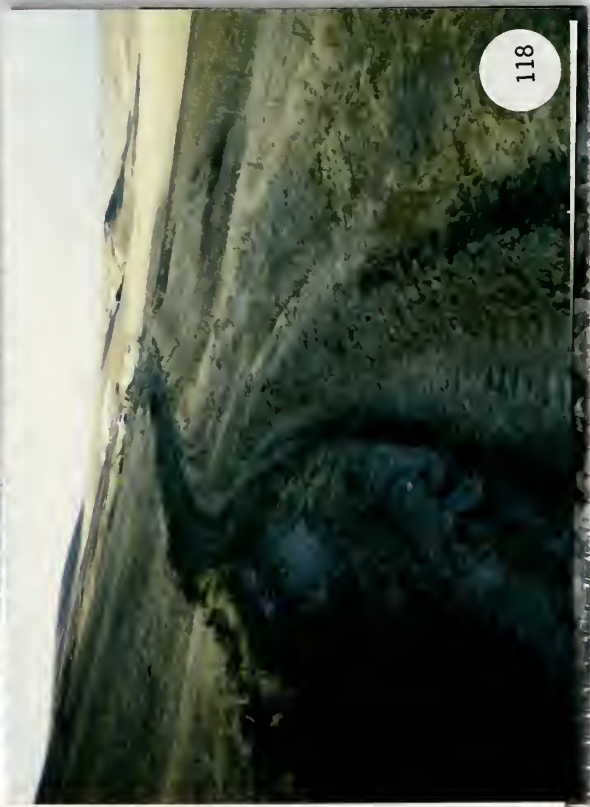
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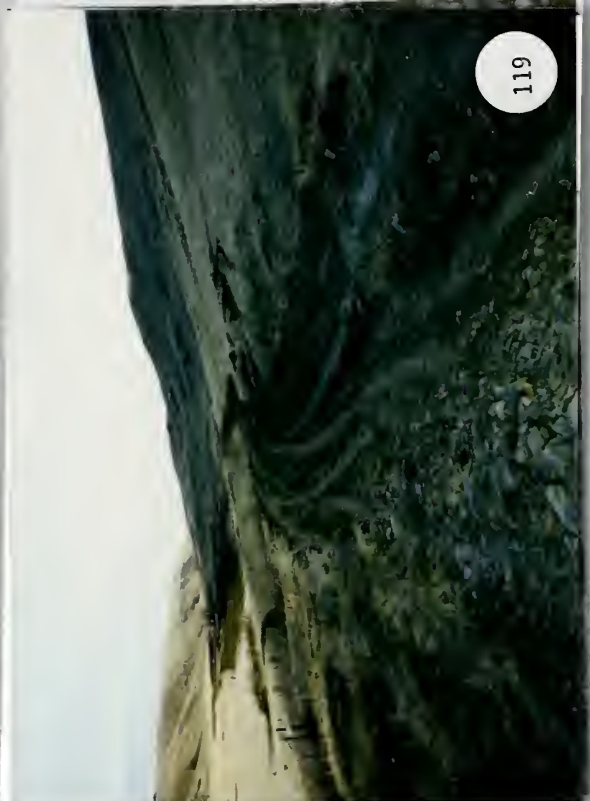
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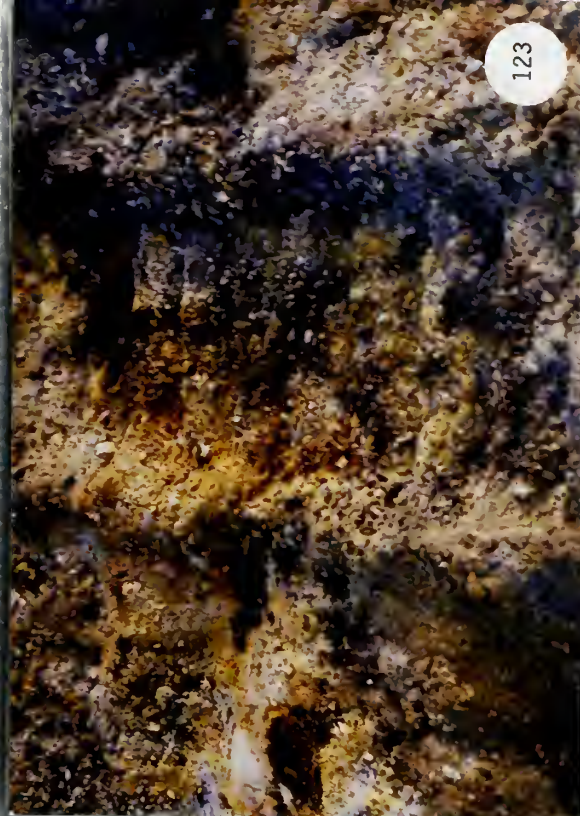
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1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
VENTS SITE

DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 12/15/93-1/3/94

CASCADE COUNTY

SOUTHEAST GREAT FALLS USGS 7 1/4 QUAD

LAT 47°22.8', LONG 111°09.3'

FIELD AND HELICOPTER VISIT ON 6/17-18/1993

LOOKING WEST AT COAL SLACK
(WITH VENTS ABOVE IT) FROM HELICOPTER

Roll #5 #3

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
VENTS SITE

DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 12/15/93-1/3/94



**VENTS SITE
T19N, R4E, SEC. 24
CASCADE COUNTY**

132

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142



143



R011 #12 #17

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
CENTERVILLE C SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/18/94-3/23/94

R011 #13 #15

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
CENTERVILLE C SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/18/94-3/23/94



**CENTERVILLE "C" SITE
T19N, R5E, SEC. 18
CASCADE COUNTY**



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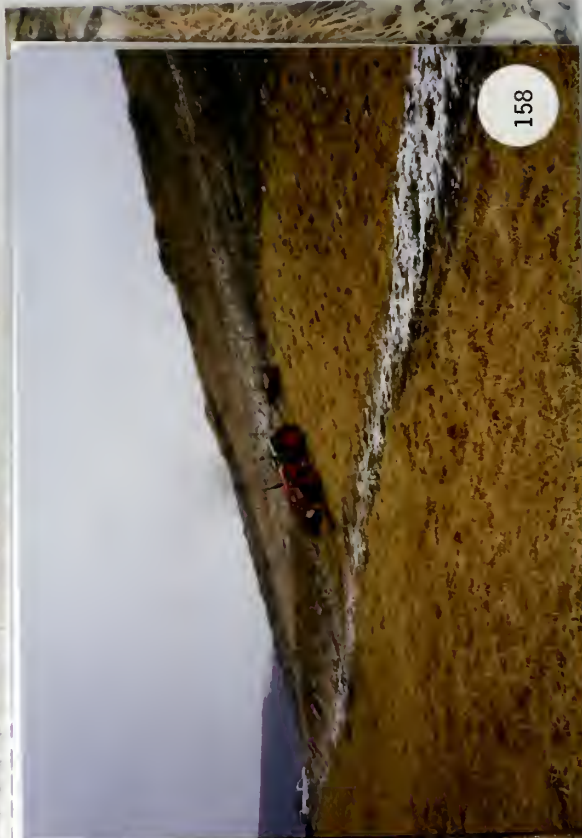
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154



155





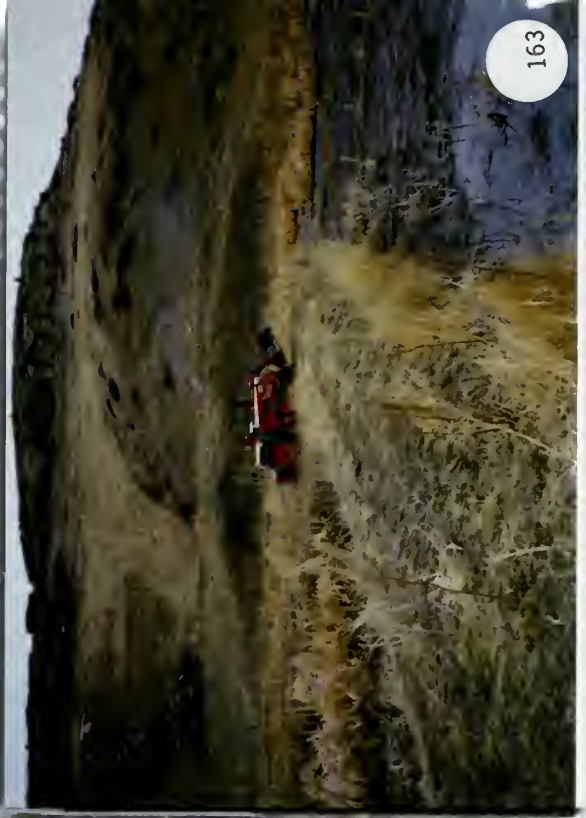
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161



162



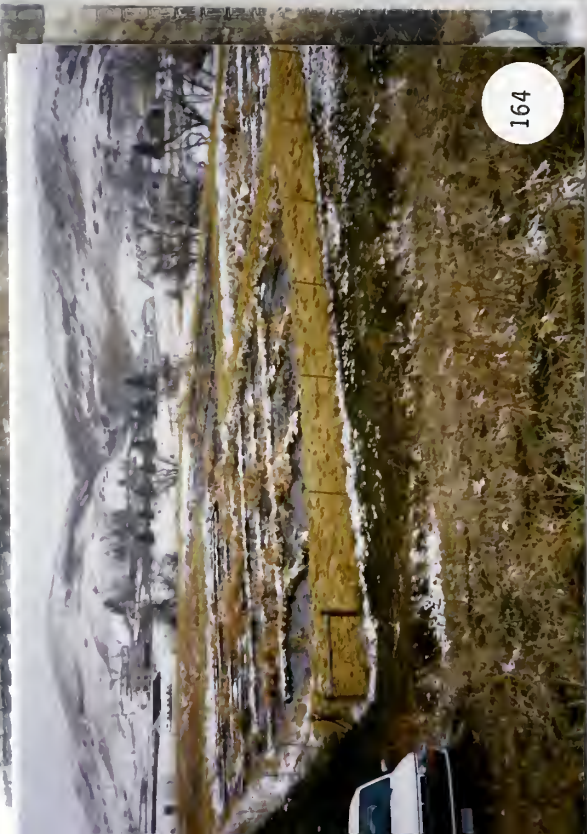
163



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1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
WORK AREA 23 SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/2/94-3/17/94

FIELD AND HELICOPTER VISIT ON 6/17-18/1993

LOOKING WEST AT BARREN HILLSIDE
FROM THE HELICOPTER

Roll 45 # 14

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
WORK AREA 23 SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/2/94-3/17/94

471

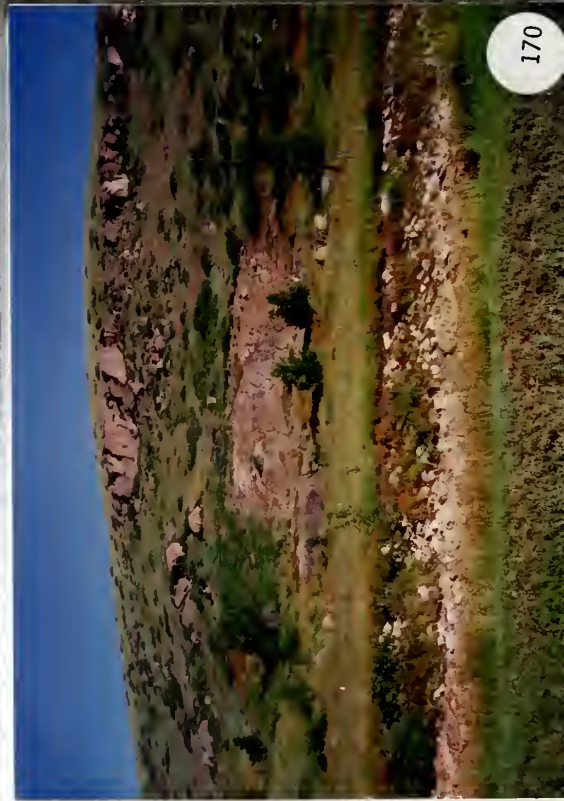
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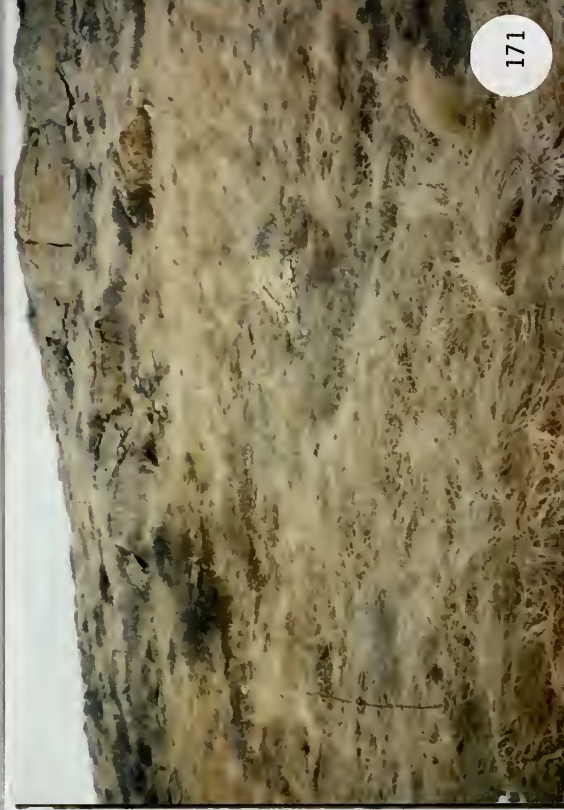
**WORK AREA 23 SITE
T19N, R4E, SEC. 13
CASCADE COUNTY**



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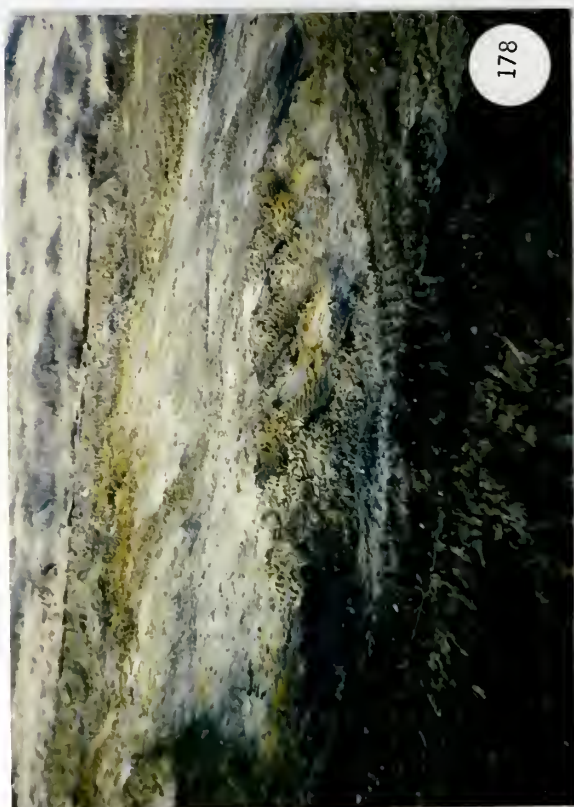
175



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Ro 11 # 13 # 0

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
WORK AREA 23 SITE
DSL-AMRB 93-M06
Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/2/94-3/17/94





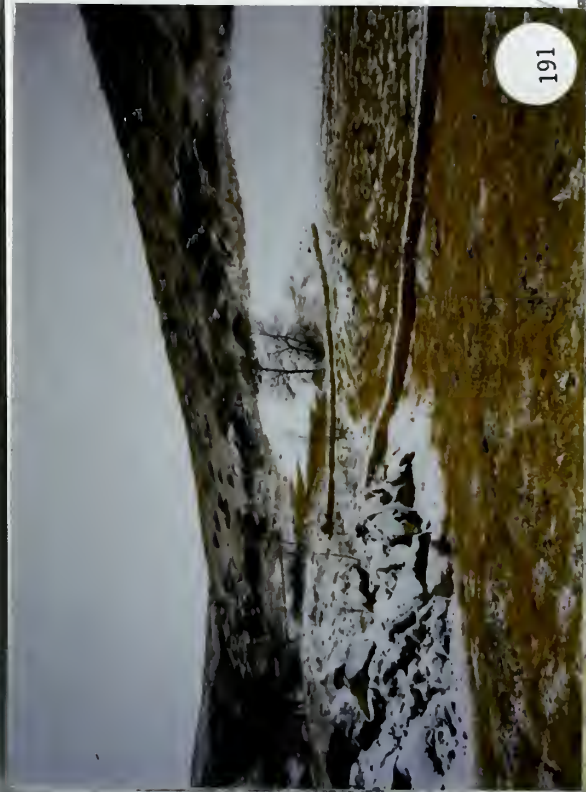
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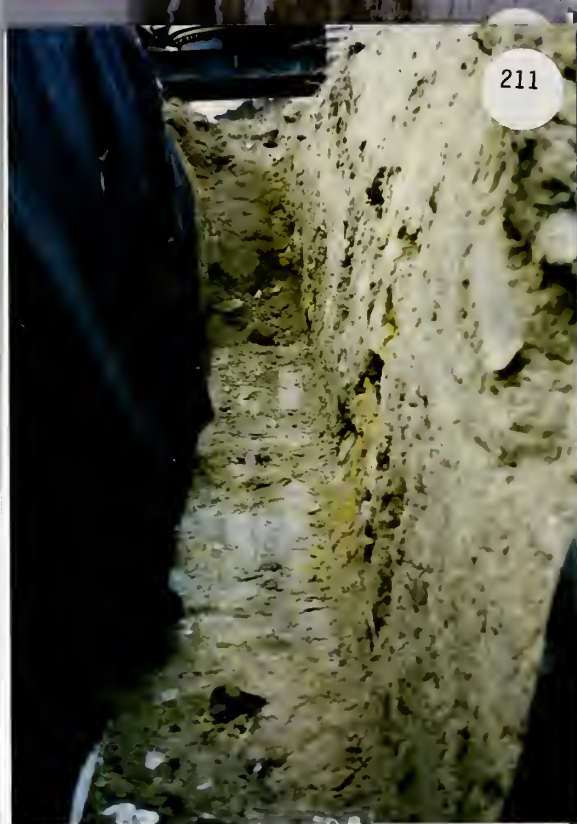
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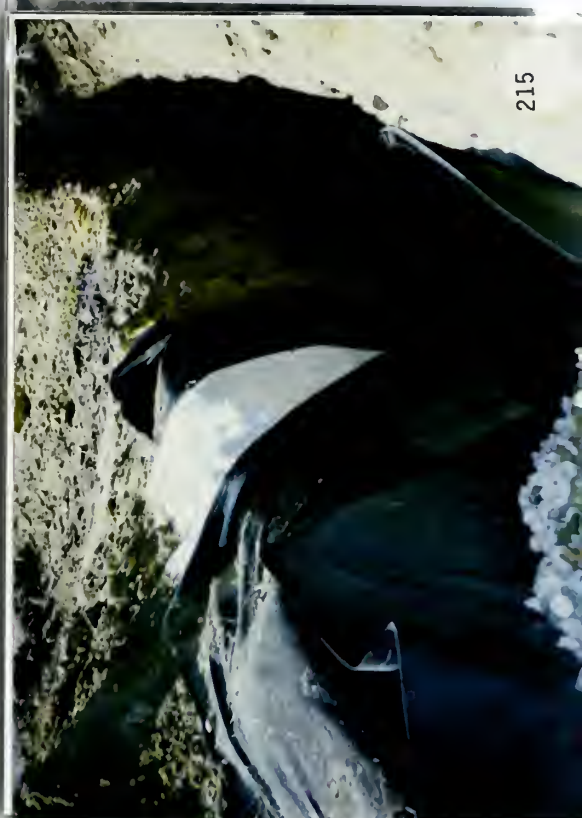
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**MINING COULEEE SITE
T19N, R3E, SEC. 23
CASCADE COUNTY**





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Roll # 4 # 15

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
MINING COULEE SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 12/27/93-12/29/93



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1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
MINING COULEE SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 12/27/93-12/29/93



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**BELT CULVERT SITE
T19N, R6E, SEC. 26
CASCADE COUNTY**





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**1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
BELT CULVERT SITE**

DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.

Construction period: 3/30/94-4/4/94

LAT 47°22.9', LONG 110°55.7'
FIELD AND HELICOPTER VISIT ON 6/17-18/1993

LOOKING NORTH AT LOWER DRAINAGE DITCH
BELOW THE CULVERT

Roll #15 #21

**1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
BELT CULVERT SITE**

DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/30/94-4/4/94

Roll #15 #22

**1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
BELT CULVERT SITE**

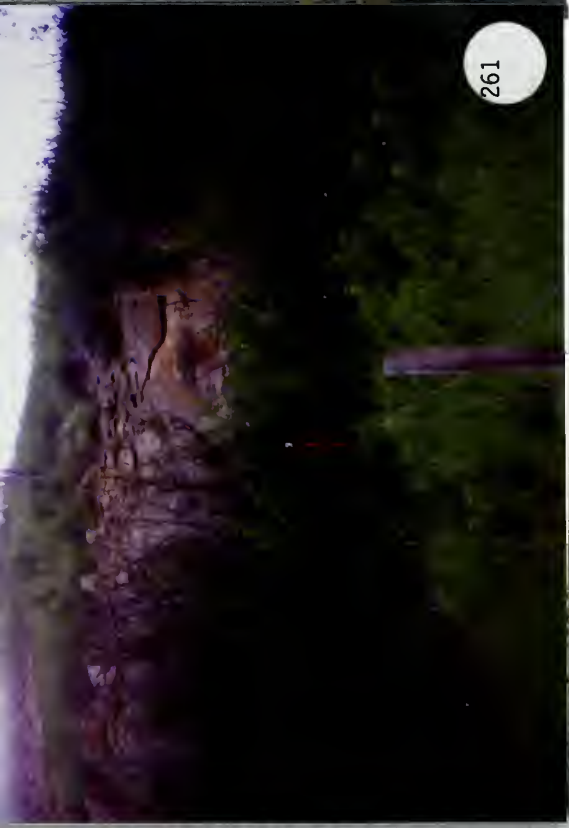
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/30/94-4/4/94

092



**ANACONDA SITE
T19N, R6E, SEC. 26
CASCADE COUNTY**



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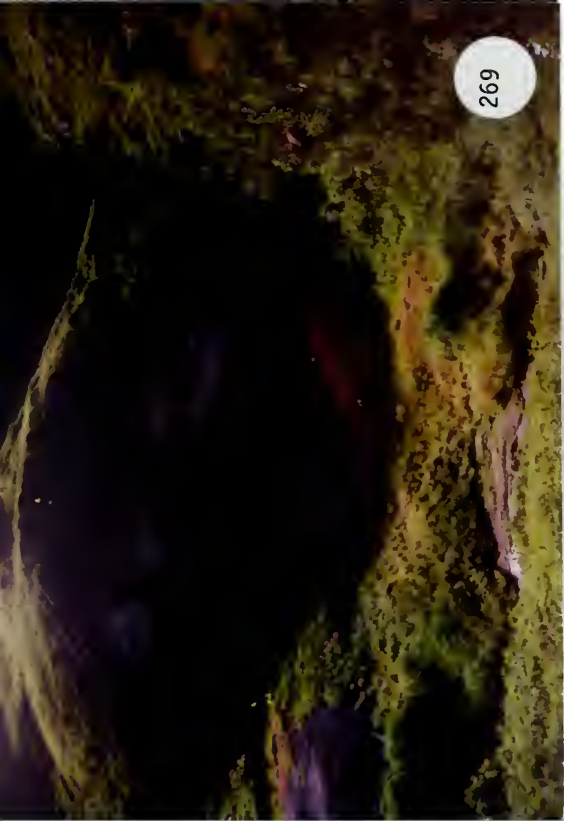
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264



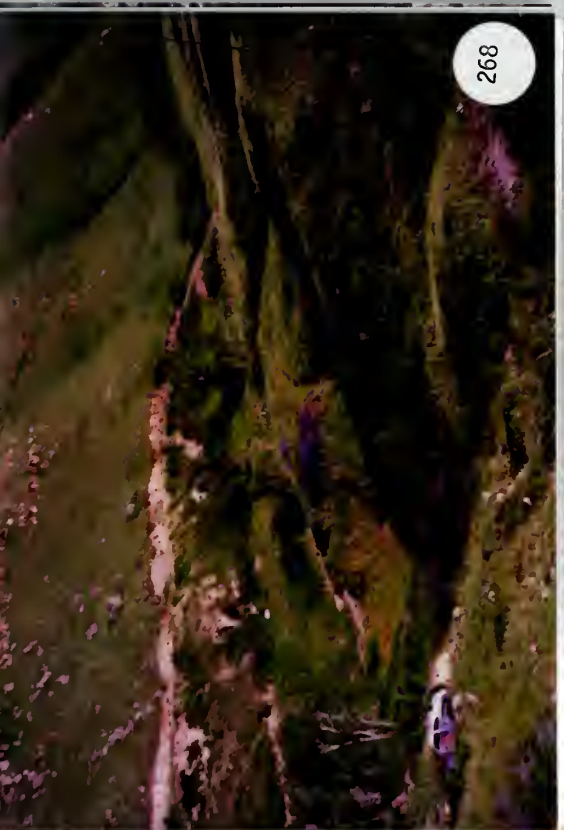
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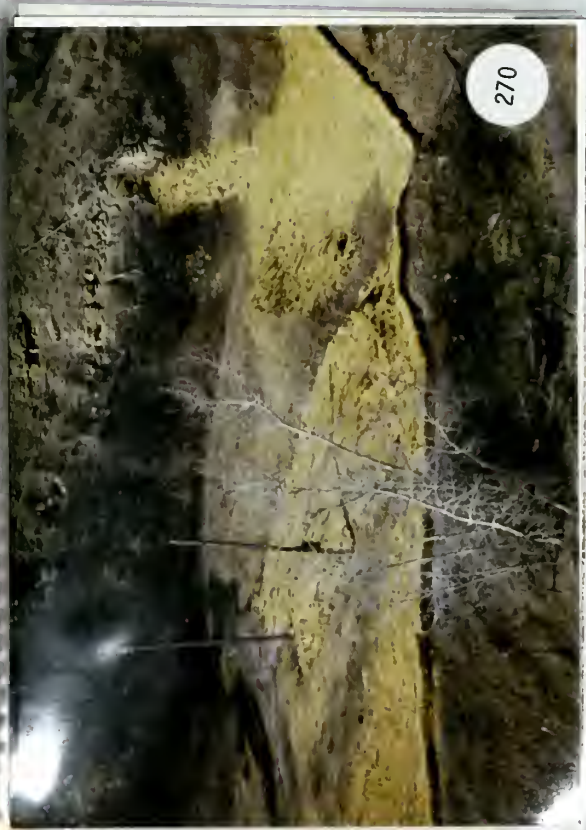
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268



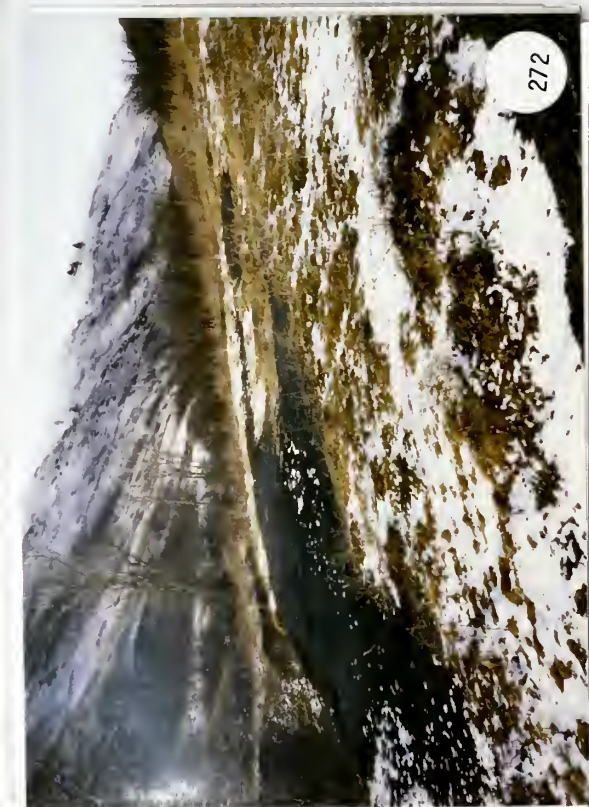
270



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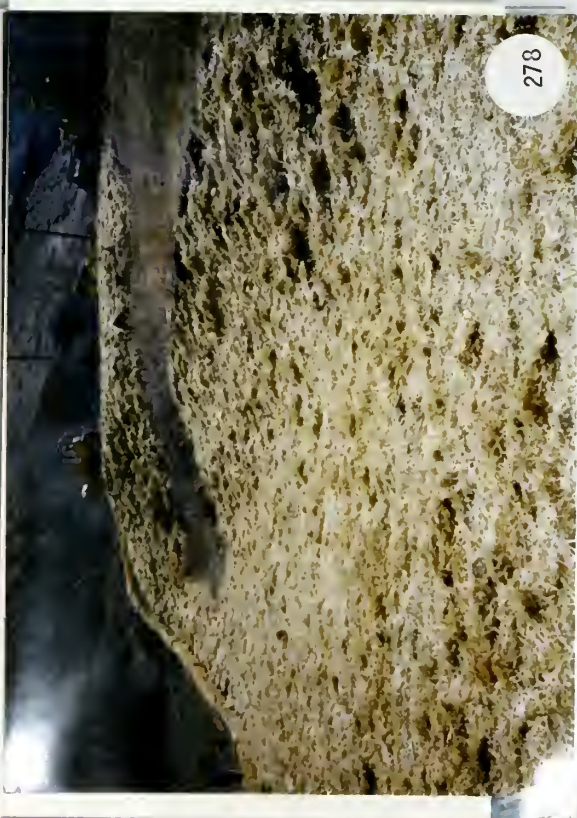


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1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
TAYNE-SFORD C SITE
DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/30/94-6/17/94

THE ARCH USGS 7 1/2 QUAD
LAT 47°11.2', LONG 110°35.43'
FIELD AND HELICOPTER VISIT ON 6/17-18/1993
LOOKING EAST AT ADIT FACE-UP



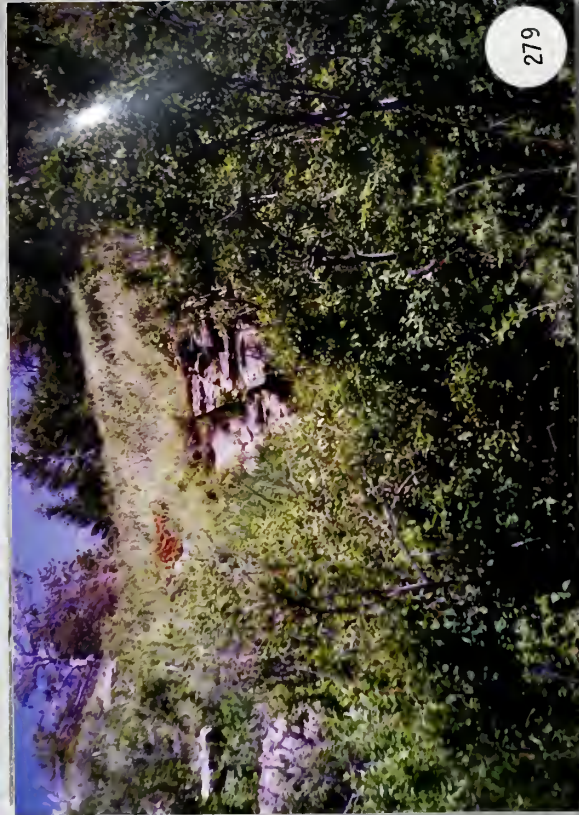
**RAYNESFORD "C" SITE
T17N, R9E, SEC. 32
JUDITH BASIN COUNTY**



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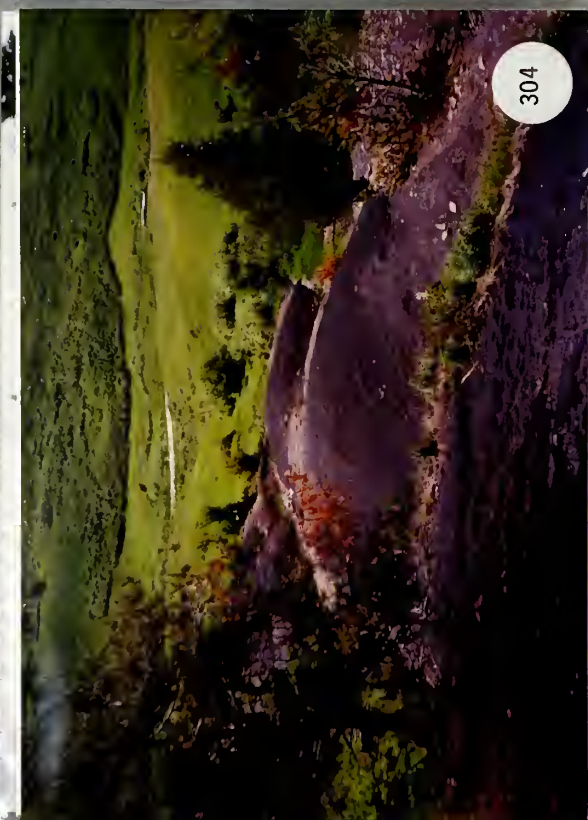
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**COAL MINE
COULEE SITE
T15N, R11E, SEC. 11
JUDITH BASIN COUNTY**



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1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT
COAL MINE COULEE SITE

DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.

Construction period: 3/29/94

CAYUSE BASIN USGS 7 1/2 QUAD

LAT 47°05.0', LONG 110°17.5'

FIELD AND HELICOPTER VISIT ON 6/17-18/1993

LOOKING SOUTHWEST AT SMALL SUBSIDENCE

818



619



317



HUGHES E SITE T15N, R12E, SEC. 29 JUDITH BASIN COUNTY

0111110



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Roll #15 42

1993 NORTH-CENTRAL MT. MAINTENANCE PROJECT

HUGHES E SITE

DSL-AMRB 93-M06

Before, during and after construction photographs.
Photo descriptions are found in the final report.
Construction period: 3/28/94-3/29/94

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